# Investigating the Mediating Role of Psychological States and the Moderating Role of Angry Rumination in the Relationship between Supervisors' History of Family Aggression and Subordinates' Perceptions of Abusive Supervision

by

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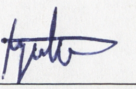
**Signed Statement of Originality**

*The work presented in this thesis, is to the best of my knowledge, my own work, except as acknowledged in the text. The material has not been submitted, either in whole or in part, for a degree at this or any other university.*



Patrick Raymund James M. Garcia

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## Dedication

I dedicate this PhD dissertation to Raymund L. Garcia (†), a man with a brave and loving heart. Dad, thank you very much for all the guidance and support. You will be in our hearts forever.

## Publications Arising From the Thesis

*Conference Papers*

**Garcia, P.R.J.M.**, Scott, K.D., Kiewitz, C., & Tang, R.L. (2012, August). *Psychological mechanisms linking history of family aggression and abusive supervision*. Paper presented at the Annual Meeting of The Academy of Management, Boston, USA.

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**Abstract**

Investigating the Mediating Role of Psychological States and the Moderating Role of Angry Rumination in the Relationship between Supervisors' History of Family Aggression and Subordinates' Perceptions of Abusive Supervision

A dissertation submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy

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Committee Chair : Professor Simon Lloyd D. Restubog

Committee Members : Professor Prashant Bordia, Professor George Chen, and Dr Alessandra Capezio

Drawing upon the Social Learning Theory (Bandura, 1973, 1977) and the General Aggression Model (GAM; Anderson & Bushman, 2002), this research program endeavours to provide a deeper understanding of the causes of abusive supervision. In particular, it examines the mediating role of two psychological states (i.e., hostile cognitions and hostile affect) and the moderating role of angry rumination in the relationship between history of family aggression and subordinates' perceptions of abusive supervision. The proposed relationships were tested in a programmatic series of five studies each providing constructive replication and empirical extension of the study findings.

The primary objective of Study 1 was to test the proposed positive relationship between history of family aggression and hostile cognitions and hostile affect. Results supported the hypothesised relationship in a sample of 255 student-parent dyads. Study 2 builds on Study 1 by examining the predicted relationships using sample of 154

supervisor-subordinate dyads and extending the theoretical model to include abusive supervision. Results supported the proposed mediating role of hostile cognitions and hostile affect.

Study 3 aimed to constructively replicate findings in Study 2 by using a different sample of 191 supervisor-subordinate dyads and operationalisation of hostile cognitions. In particular, the word completion task (Anderson et al., 2004) was used which taps into implicit social cognitions. Results once again supported the mediating role of hostile cognitions and hostile affect in the relationship between history of family aggression and abusive supervision. Alternative model tests also revealed that history of family aggression exerts its influence via a dual-activation process.

Study 4 has two main objectives. First, it aimed to rule out alternative explanations by controlling for previously established antecedents of abusive supervision (e.g., procedural justice, interactional justice, psychological contract violation) and supervisor-subordinate characteristics (e.g., supervisor age, gender, duration of working relationship with the supervisor, and subordinates' neuroticism). Second, it examined the moderating role angry rumination in the proposed mediated relationship between history of family aggression and subordinates' perceptions of abusive supervision. Once again, results supported the main effects and mediation hypotheses. In addition, the conditional indirect effect of history of family aggression in predicting subordinates' perceptions of abusive supervision via hostile affect was stronger for supervisors' with high as opposed to low levels of angry rumination. However, the conditional indirect effect of history of family aggression in predicting subordinates' perceptions of abusive supervision via hostile cognitions at high and low

levels of angry rumination was not supported. Finally, Study 5 aimed to replicate the findings from Study 4 and address issues associated with the use of retrospective data (e.g., history of family aggression) by obtaining parent ratings of history of family aggression. Once again, results supported previous findings. Mirroring the results of Study 4, there was a significant conditional indirect effect for history of family aggression in predicting subordinates' perceptions of abusive supervision via hostile affect for those with high as opposed to low levels of angry rumination. However, the conditional indirect effect involving hostile cognitions was not supported.

This research program makes several contributions to the understanding of abusive supervision. First, it presented a different theoretical approach in explaining the occurrence of abusive supervision by implicating the role of social learning experiences, psychological states, and personality characteristics. Second, it addressed methodological issues associated with extant abusive supervision research through the use of multi-source data, constructive replication, and implicit measures of social cognition. Theoretical implications with reference to abusive supervision research and practical implications for reducing and managing its occurrence are discussed.

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# Chapter 1

## Investigating the Mediating Role of Psychological States and the Moderating Role of Angry Rumination in the Relationship between Supervisors' History of Family Aggression and Subordinates' Perceptions of Abusive Supervision

### Abusive Supervision in the Workplace: An Overview

In recent years, there has been growing interest in the study of the supervisor-subordinate relationships. Most of these research focused on the positive role that leadership plays in the promotion of leader and organisational effectiveness (Bass, 1990; Yukl, 1998). However, management scholars have now recognised that leaders may also use their power to mistreat employees and that this results in negative consequences for organisations and its members (Ashforth, 1997; Duffy, Ganster, & Pagon, 2002; Schat, Frone, & Kelloway, 2006). These destructive behaviours are not limited to direct physical aggression typically reported in the media, it also includes indirect forms such as psychological aggression and emotional abuse. This shift is unsurprising especially since nonphysical forms of aggression in the workplace are more prevalent than physical hostility. In fact, a recent survey of the United States workforce showed that 41.4% (approximately 47 million) of U.S. wage and salary workers reported having experienced psychological aggression at work during the past 12 months. In contrast, only 6% (approximately 7 million) reported having experienced physical aggression (Schat et al., 2006). Indeed, research suggests that human adults prefer to engage in covert forms of aggression that is likely to maximise harm towards their victims but minimise possible consequences against themselves (Baron, Neuman, & Geddes, 1999; Björkqvist,Österman, & Hjelt-Bäck, 1994).

Examples of psychological aggression include shouting obscenities or screaming at subordinates in anger and insulting or calling them names in front of others (Schat et al., 2006). Considerable research has been undertaken to investigate this form of workplace aggression and most referred to it as *abusive supervision* (Tepper, 2000). Indeed, abusive supervision is a serious problem for organisations as it incurs an estimated cost (in terms of absenteeism, healthcare costs, and loss of productivity) of $23.8 billion annually (Tepper, Duffy, Henle, & Lambert, 2006).

Abusive supervision is generally understood as "subordinate's perceptions of the extent to which supervisors engage in the sustained display of hostile verbal and nonverbal behaviours, excluding physical contact" (Tepper, 2000, p. 178). Examples of abusive supervision include angry outbursts, scape-goating, and public criticism (Bies, 2001). Tepper (2000) further identified features of the construct by virtue of this definition. First, abusive supervision is based on the subordinate's subjective perception of their supervisor's behaviour. Thus, evaluations of abusive supervision may be influenced by dispositional factors such as subordinates' conscientiousness, agreeableness, and neuroticism (McCrae & John, 1992; Tepper, Duffy, & Shaw, 2001) and contextual factors such as job mobility (Tepper, 2000) and supervisor support (Duffy et al., 2002). Second, abusive supervision is a form of wilful behaviour. That is, abusive supervisors consciously engage in hostility against their subordinates, although the intended outcome (e.g., to cause harm or improve performance) is not directly specified. Finally, abusive supervision involves sustained displays of non-physical hostility. In essence, the abusive behaviour should be part of the supervisor's everyday repertoire. Therefore, a boss who yells at his or her employees could be considered abusive if he or she engages in the said behaviour on a regular basis.

Despite growing interest in understanding abusive supervision at a theoretical and empirical level, there are still several research gaps that need to be addressed. First, there is limited theorising and empirical testing around the antecedents of abusive supervision. In a critical appraisal of the literature, Tepper (2007) pointed out a focus on the deleterious consequences of abusive supervision and emphasised the need to investigate the antecedents and mechanisms that influence its occurrence. To date, most existing work has framed abusive supervision as a result of workplace injustices such as procedural (Rafferty, Restubog, & Jimmieson, 2010; Tepper, et al., 2006) and interactional injustice (Aryee, Chen, Sun, & Debrah, 2007), and psychological contract violation (Hoobler & Brass, 2006). Although a justice-based approach helps in understanding abusive supervision, it fails to account for the role of supervisor-level factors (e.g., personal history, personality, and experiences outside of the organisation) in influencing aggressive behaviour. Organisational scholars often treated these factors as moderators or control variables (Aryee et al., 2007; Hoobler & Brass, 2006). This is the case despite empirical evidence suggesting that dispositional (e.g., trait anger, history of aggressive behaviour, self-esteem; Douglas & Martinko, 2001; Greenberg & Barling, 1999; Hershcovis et al., 2007; Inness, Barling, & Turner, 2005) and environmental factors (e.g., violence in the community, aggressive home environments; Dietz, Robinson, Folger, Baron, & Schulz, 2003; Garcia, Restubog, & Denson, 2010) directly affect the incidence of workplace aggression.

Investigating these supervisor-level factors is important for two reasons. First, it enhances our understanding and explanation of the causes of workplace aggression (Douglas & Martinko, 2001). In order to fully understand abusive supervision, researchers need to move beyond the current focus on its consequences and start investigating

antecedents that operate within the perpetrators themselves (Tepper, 2007). By doing so, we improve on the abusive supervision nomological net and increase the predictive power of theoretical models that explain workplace aggression in general. Second, knowledge regarding the process and mediating mechanisms that underlie abusive supervision is a crucial step for developing effective techniques for reducing and managing the behaviour. If supervisor-level variables largely contribute to the occurrence of abusive supervision, then it offers organisations the opportunity to enact policies, practices, and interventions that contribute to a reduction of aggression at work. Indeed, the salience of investigating supervisor-level factors has been reflected in recent work on abusive supervision (Kiazad, Restubog, Zagenczyk, Kiewitz, & Tang, 2010; Tepper, Duffy, & Moss, 2011). For example, Kiazad and colleagues (2010) reported that those supervisors high in Machiavellian orientation (i.e., tendency to manipulate others to maximise self-interests) were perceived by their subordinates as more abusive. Furthermore, this relationship was mediated by the supervisors' authoritarian leadership behaviour (i.e., asserting absolute authority and control over subordinates).

The second aspect of abusive supervision research that warrants attention pertains to the reliance on displaced aggression as an explanatory framework. Inherent to displaced aggression theory is the assumption that an initial provocation (e.g., injustice from the organisation) is sufficient to trigger a later aggressive response (Bushman, Bonacci, Pedersen, Vasquez, & Miller, 2005). Several issues arise when displaced aggression is used to explain the *sustained* nature of abusive supervision (i.e., based on Tepper's definition, abusive supervision involves subordinates repeatedly being exposed to mistreatment). For one, there is an underlying assumption in studies invoking displaced aggression that perceived injustices from the organisation is severe enough for supervisors

to engage in *ongoing* hostility towards subordinates to obtain relief from their frustrations. Even if this is the case, supervisors are then expected to cease in engaging in hostility towards their subordinates after frustrations have been displaced. Second, there is a temporal element in the displaced aggression paradigm (Bushman et al., 2005) which suggests that in the absence of rumination, anger usually dissipates after ten minutes (Fridhandler & Zeichner, 1982; Tyson, 1998). Thus, even if one assumes that organisations continue to engage in unjust treatment (i.e., providing sustained frustration to be displaced), an assumption still needs to be made that the supervisor engaged in rumination in order to sustain the anger or frustration experienced. To this end, there is a need to develop and test a theory that can more accurately capture the sustained characteristic of abusive supervision without making these assumptions.

Finally, extant literature on abusive supervision is also not replete with methodological limitations. Most of these studies relied on self-report and/or single source data as variable measures (Mitchell & Ambrose, 2007; Tepper et al., 2006; Zellars, Tepper, & Duffy, 2002). The use of such measures may impact on measurement validity due to common method variance and reponse reactivity issues such as social desirability and test faking (Fisher, 1993). Similarly, the use of self-reports to measure the effect of personality on behaviour offers limited explanatory power as it only accounts for explicit or conscious cognitions and ignores the implicit or automatic aspect of cognition (Bing, et al., 2007). In a recent review on attitudes, self-esteem, and stereotypes, Greenwald and Banaji (1995) concluded that "much social cognition occurs in an implicit mode" (p. 20) and encouraged future researchers to use indirect measures of social cognition to extend the scope of constructs under investigation.

On the whole, this research program endeavours to provide a deeper understanding of abusive supervision. Specifically, it aims to examine the role of history of family aggression in predicting abusive supervision. Moreover, it explores the mediating mechanisms that link these two constructs at the level of the supervisor. By testing these predictions, the study contributes to the abusive supervision literature in several important ways.

First, it answers the call for more empirical investigations on the antecedents of abusive supervision by exploring the yet-to-be researched role of history of family aggression. Preliminary support for this relationship is derived from family violence literature (Kernsmith, 2006; O'Keefe, 1998; Reitzel-Jaffe & Wolfe, 2001) and social learning theory (Bandura, 1973, 1977). By integrating both bodies of knowledge, this study aims to shed light and provide a better understanding of why supervisors abuse their subordinates. It builds on the premise that employees bring to work not only a work-related history but also a personal one. Specifically, the study investigates the role of observed inter-parental aggression during childhood as it impacts on abusive supervisors' thoughts, feelings, and behaviours. The present investigation does not in any way claim that a justice-based approach is flawed. It acknowledges that provocations in the workplace (i.e. injustices) may lead to abusive supervisory behaviour. However, repeatedly viewing abusive supervision through the same lens limits our understanding of the phenomena as discussed earlier.

Second, the present study tests psychological mechanisms that lead to abusive supervision. Unlike previous work, it focuses on the characteristics of the actor themselves which gives a better insight of why supervisors engage in abusive treatment. The study addresses the limitations of displaced aggression by drawing on Social Learning Theory

(Bandura, 1973) and the General Aggression Model (GAM; Anderson & Bushman, 2002). Indeed, Baron and colleagues (1999) highlighted the potential value of establishing links between investigations on workplace aggression and basic research on human aggression. According to them, it provides investigators with interesting hypotheses worthy of study and complex theoretical frameworks that may increase our understanding of the antecedents and consequences of workplace aggression. Along similar lines, these theories were chosen because both recognise the role of cognitive processes and affective states in the experience of anger as it leads to the expression of aggression. In sum, this research contributes to our knowledge on abusive supervision by proposing a theoretical model that accounts for the influence of supervisor-level factors. By looking at mediating and moderating mechanisms, it goes beyond simple main effects that are predominant in the abusive supervision literature.

Finally, the study aims to address the methodological issues mentioned earlier, as well as extend theorising on abusive supervision by using an indirect measure of social cognitions. The word completion task (WCT) developed by Anderson and colleagues (Anderson, Carnagey, & Eubanks, 2003; Anderson et al., 2004) accomplishes these two aims. First, it utilises an indirect approach to measuring aggression as it appears to be tapping into the ability to complete word fragments when in fact it assesses the accessibility of hostile thoughts. This circumvents measurement issues such as social desirability and test faking (LeBreton, Barksdale, Robin, & James, 2007). Second, unlike self-reports which measure the conscious, self-ascribed aspect of personality, the WCT taps into implicit social cognitions. These refer to components of cognitive structure and process that is hidden from introspection which cannot be uncovered by self-report measures. Implicit and explicit cognitions are theoretically and operationally distinct from

each other (Bing et al., 2007). Prior work by McClelland and colleagues (McClelland, 1985; McClelland, Koestner, Weinberger, 1989) showed that implicit and explicit cognitions interact to predict experimental task performance (e.g., word-maze tasks, word-recall tasks) and, most importantly, are often uncorrelated. Furthermore, Todorov and Bargh (2002) concluded that aggressive behaviour may originate from automatic, unconscious processes as a result of repeated exposure to hostile situations which then leads to stable individual differences in aggressive tendencies.

Data from self-reports are salient. However, it is the study's premise that implicit measures of social cognition are likely to provide additional and often unique sources of data as it tap into the automatic and implicit aspect of one's aggressive personality (in relation to self-reports; Greenwald & Banaji, 1995; McClelland et al., 1989). To date, little is known about the influence of implicit cognition on abusive supervision. The present study aims to delve deeper into a supervisor's reasons for engaging in aggressive behaviour because it also captures the automatic and unconscious mechanisms that drive abusive behaviour. Understanding the role of both explicit and implicit social cognitions has the potential to inform the development of policies and interventions in organisational contexts.

The aim of this chapter is to review the literature on abusive supervision, focusing on extant work on its antecedents and consequences on work attitudes, behaviours, and well-being. It also aims to provide theoretical and empirical support for the proposed link between history of family aggression and abusive supervision. Thus, it will offer an overview of the abuse literature and how this is related to abusive behaviour in the workplace. Using the GAM (Anderson & Bushman, 2002) and the social learning theory (Bandura, 1973), the chapter proceeds with discussing the mediating role of hostile

cognitions and hostile affect as well as the moderating role of angry rumination. It ends by presenting the proposed moderated mediation model of history of family aggression and abusive supervision.

## The Concept of Abusive Supervision

The literature on abusive supervision remains to be poorly integrated and fragmented as a result of the different terminologies used to describe aggression in the workplace (Tepper, 2007). To minimise confusion, it is therefore important to clarify how each construct is different from abusive supervision (for a more thorough discussion see Tepper, 2007). This is discussed briefly in the following section. After which an overview of the antecedents and consequences of abusive supervision is presented.

### Abusive Supervision and Related Constructs

The different features of Tepper's definition of abusive supervision set it apart from other related forms of workplace aggression. First, abusive supervision is exclusive to hostile behaviours perpetrated hierarchically (e.g., supervisor to subordinate), unlike other constructs that include hostilities directed upwardly (subordinate to supervisor) and laterally (co-worker to co-worker). An example of this is workplace vicitimisation defined as "'the individual's self-perception of having been exposed, either momentarily or repeatedly, to aggressive actions emanating from one or more other persons" (Aquino & Bradfield, 2000, p. 172) and workplace bullying which occurs when "one or several individuals over a period of time perceive themselves to be on the receiving end of negative actions from one or several persons, in a situation where the target of bullying has difficulty in defending him or herself against these actions" (Hoel, Rayner, & Cooper, 2001, p. 4). Both workplace victimisation and bullying involve mistreatment emanating from various sources (i.e., supervisor, peer, or subordinate) (Tepper, 2007).

Second, abusive supervision only constitutes behaviours that fall under the content domain of non-physical hostility. This serves as another key distinction with related constructs such as workplace victimisation and generalized hierarchical abuse (i.e., the experience of having been mistreated by supervisors in general). Workplace victimisation includes physical aggression in its content domain (e.g., "threw something at you", "pushed or punched you") (Aquino & Bradfield, 2000, p. 180) while generalised hierarchical abuse includes sexual harassment (Rospenda, 2002).

Third, certain related constructs to abusive supervision may include behaviours that are not necessarily aggressive. For example, petty tyranny defined as a superior's use of power "oppressively, capriciously, and perhaps vindictively" (Ashforth, 1997, p. 126), depicts behaviours such as not being friendly or approachable which may or may not be perceived as hostile. Another related construct is workplace incivility defined as "low-intensity deviant behaviour with ambiguous intent to harm the target, in violation of workplace norms for mutual respect" (Andersson & Pearson, 1999, p. 457). Examples of workplace incivility include answering the phone with a "yeah", neglecting to say thank you or please, and talking loudly over the phone about personal matters (Martin, 1996). These behaviours may or may not be viewed as hostile especially if the perpetrator is ignorant about its effects (e.g., "I didn't mean to be rude, I was just in a hurry"; Andersson & Pearson, 1999).

Fourth, the intended outcome of engaging in abusive supervision is unclear. This aspect of Tepper's definition sets abusive supervision apart from most of the constructs discussed here. For example, social undermining defined as "behaviour intended to hinder, over time, the ability to establish and maintain positive interpersonal relationships, work-related success, and favourable reputation" (Duffy, et al., 2002, p. 332), include

intentionality as part of its definition. Similar to abusive supervision, workplace incivility may occur without clear intent; however, it is distinct from abusive supervision as discussed. Thus, supervisors may abuse subordinates to cause harm or increase performance or compliance (Tepper, 2007). The following summary table presents the different characteristics of abusive supervision as it compares with related constructs:

Table 1

*Constructs that Capture Nonphysical Hostility*

| **Construct** | **Definition** | **Directed Downward** | **Excludes Physical Hostility** | **Includes Content Other Than Hostility** | **Includes Reference to Intended Outcomes** |
|---|---|---|---|---|---|
| Abusive Supervision | "Subordinates' perceptions of the extent to which their supervisors engage in sustained display of non-verbal behaviours, excluding physical contact" (Tepper, 2000, 178). | Yes | Yes | No | No |
| Workplace Victimisation | "The individual's self-perception of having been exposed, either momentarily or repeatedly, to aggressive actions emanating from one or more other persons" (Aquino, 2000, p. 172). | Not necessarily | No | No | Yes |
| Generalised Hierarchical Abuse | "Exposure to hostility perpetrated by hierarchically superior co-workers" (Tepper, 2007, p. 263). | Yes | No | No | No |
| Petty Tyranny | Manager's use of power and authority | Yes | Yes | Yes | No |

| | | | | | |
|---|---|---|---|---|---|
| | oppressively, capriciously, and vindictively (Ashforth, 1987, 1994, 1997). | | | | |
| Workplace Incivility | "Acting rudely or discourteously, without regard for others, in violation of norms for respect in social interactions" (Andersson & Pearson, 1999, p. 455). | Not necessarily | Yes | Yes | No |
| Supervisor Undermining | Supervisor "behaviour intended to hinder, over time, the ability to establish and maintain positive interpersonal relationships, work-related success, and favourable reputation" (Duffy et al., 2002, p. 332). | Yes[a] | Yes | Yes | No |

a Also includes non-physical, hostile behaviour perpetrated by individuals other than supervisors but against subordinates

**Antecedents of Abusive Supervision**

This section summarises existing work on the antecedents of abusive supervision. First, it would present constructs that have been implicated as predictors of abusive supervision as well as the theoretical framework/s that underlie these relationships. Second, this section also introduces alternative theoretical explanations regarding the occurrence of abusive supervision. Specifically, it offers a brief discussion on victim precipitation theory (Aquino, 2000) and recent work on the social learning theory (Bandura, 1973) as it is applied in abusive supervision research.

Because abusive supervision is a workplace phenomenon, extant work on its antecedents focused on a justice-based approach anchored on social exchange theory

(Blau, 1964). This is unsurprising since the supervisor-subordinate relationship is characterised by social exchanges both on a social and economic basis (Blau, 1964). Thus, constructs that have been implicated so far to predict abusive supervision focused on organisational variables that reflect the quality of social exchange relationships in the workplace. For example, procedural injustice (i.e. the perception that one's employer arrived at allocation decisions that utilised unfair decision-making processes), interactional injustice (i.e. unfair interpersonal treatment during enactment of decision procedures), and psychological contract violation (i.e. failure on the part of the employer to fulfil what had been promised; Aryee et al., 2007; Hoobler & Brass, 2006; Tepper, et al., 2006) were all found to be positively related to abusive supervision. Specifically, supervisors who have been unfairly treated by the organisation or its members are more likely to engage in abusive supervision because of the need to restore equity and instigate retribution (Tepper, 2007). This conceptual argument is also related to the frustration-aggression hypothesis which states that frustrations arising from interrupted goals lead to aggressive behaviour (Dollard, Doob, Miller, Mowrer, & Sears, 1939). In the work context, unfair treatment results in frustrations accompanied by an affective response (e.g., anger). This in turn leads to hostility directed towards the organisation or its members (e.g., subordinates).

However, the social exchange theory does not fully explain why supervisors direct their frustrations towards innocent targets such as their subordinates. Thus, existing work used the displaced aggression framework to account for the hierarchical feature of abusive supervision. According to this framework, supervisors may choose not to directly retaliate towards the source of the provocation (e.g., the organisation) for fear of further reprisal or mistreatment (Tepper et al., 2006). For example, supervisors will not aggress towards the organisation since it has power over them in terms of making allocation decisions (i.e.,

who gets promoted or who gets terminated). Thus, they are likely to choose a more convenient and "safer" target such as their subordinates (Tepper et al., 2006). Furthermore, supervisors have power over their subordinates and in most cases expect them to be obedient and unquestioning. This power imbalance inherent in supervisor-subordinate relationships makes it easier for supervisors to displace their frustrations as they can mask their behaviours as "a part of the job".

Several studies have found support for the displaced aggression explanation. For example, in a study of Chinese workers, Aryee and colleagues (2007) explained the negative relationship between supervisors' experience of interactional justice and subordinates' perception of abusive supervision as a form of displaced aggression. They also observed that this relationship was stronger when supervisors believe that subordinates should display unquestioning obedience to authority. Similarly, in a sample of MBA graduates, Hoobler and Brass (2006) reported that supervisors' perception of psychological contract violation elicits abusive supervision and that this relationship was stronger for supervisors who have high as opposed to low hostile attribution bias (i.e. the dispositional tendency to interpret behaviours as hostile; Adams & John, 1997). They further explained that supervisors will not engage in direct retaliation against the cause of the violation (e.g., the organisation or a boss) for fear of reprisals (e.g., demotion, disciplinary action).

Victim precipitation theory has also been proposed as an alternative explanation for the occurrence of abusive supervision (Aquino & Bradfield, 2000; Aquino, Grover, Bradfield, & Allen, 1999). It proposes that individuals predispose themselves to abuse by consciously or unconsciously behaving in a provocative way or by placing themselves in a high risk of being victimised (Aquino, et al., 1999). For example, individuals with high

negative-affectivity reported greater abuse because they provoke others to aggress towards them by appearing weak, vulnerable, and unable to defend themselves. Indeed, Tepper and colleagues (2006) found that the mediating effects of depression on procedural injustice and abusive supervision was stronger among subordinates high negative affectivity as opposed to those with low negative affectivity. That is, supervisors significantly chose to abuse those subordinates who appeared to have little means to defend themselves against an attack.

Tepper et al. (2011) recently expanded on the known antecedents of abusive supervision by using a moral exclusion perspective (Opotow, 1995). According to this approach, behaviours toward others are influenced by our *scope of justice* or the belief that certain targets are deserving of fair and ethical treatment while others are expendable and undeserving (Opotow & Weiss, 2000). They further argued that organisational factors influence who supervisors will morally exclude from their scope of justice. Specifically, they found that subordinates who are most dissimilar to their supervisors tend to have more relationship conflict and poor performance evaluations, which in turn leads to greater abusive supervision.

Recent work has also used the social learning theory to explain how the workplace environment influences abusive supervisory behaviour (Restubog, Scott, & Zagenczyk, 2011). Specifically, Restubog and colleagues used Bandura's (1973) social learning theory to explain the relationship between aggressive organisational norms (i.e., belief that aggression is acceptable and useful in the work context) and subordinates' perceptions of abusive supervision. They proposed that this relationship occurs through social learning processes such as observational learning and modeling. That is, when supervisors observe others aggress within the organisation, this contributes to their belief that abusing their

subordinates is socially acceptable and would yield positive outcomes. Figure 1 summarises the known antecedents and mediating and moderating mechanisms that influence abusive supervision.

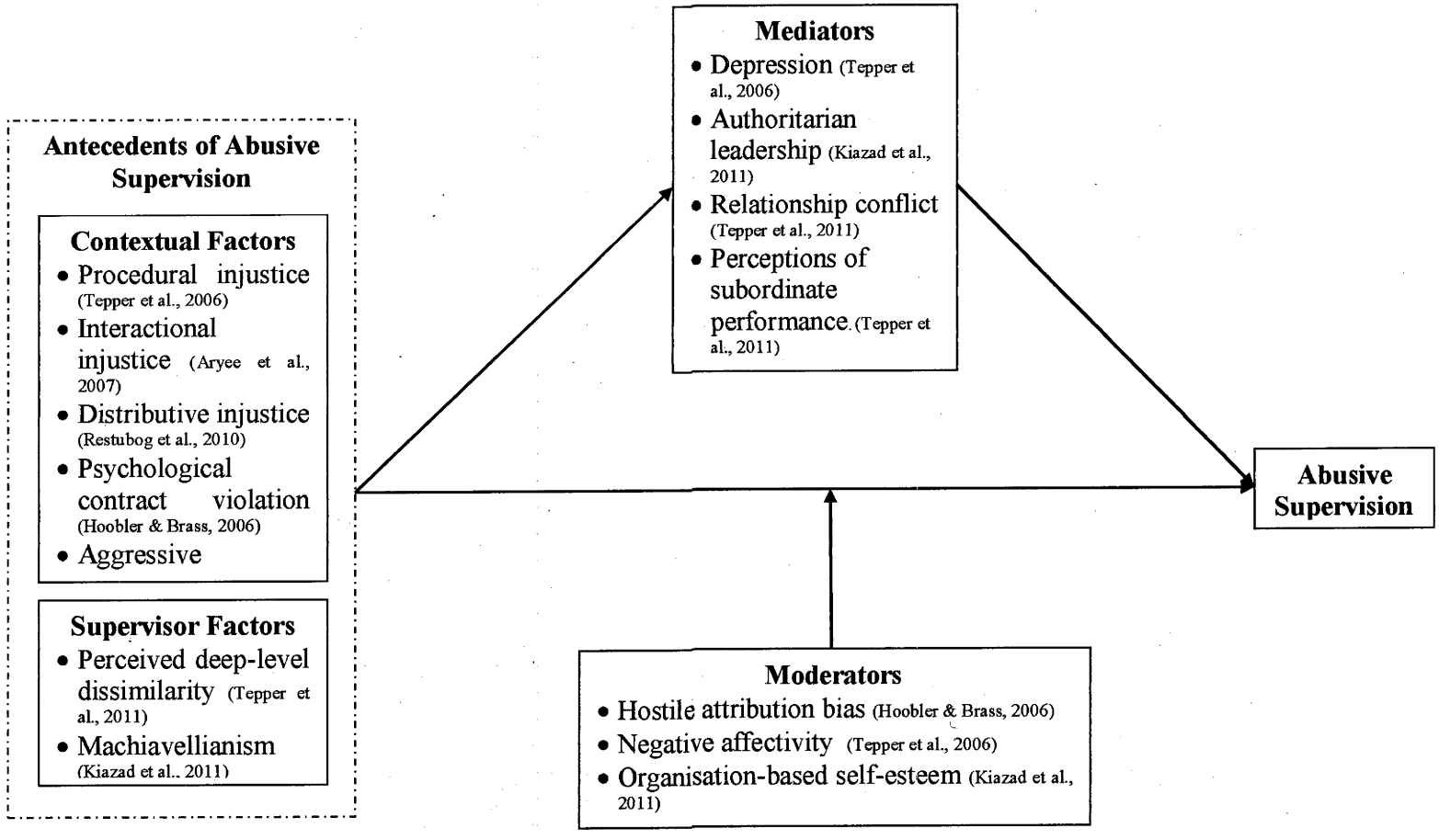


*Figure 1.* Conceptual Map of the Antecedents of Abusive Supervision with Mediators and Moderators

**Consequences of Abusive Supervision**

A review of the literature on abusive supervision indicates a focus towards investigating its negative consequences. In this section, I discuss the theoretical approaches used to describe employee reactions to abusive supervision. Within each theoretical approach, I incorporate work outcomes examined in relation to abusive supervision. Similar to its antecedents, a justice-based model was also used to explain subordinate responses to abusive supervision (Tepper, 2000). When subordinates are unfairly treated, this causes frustration and calls into question the individual's self-worth and value in the organisation. The frustrations caused by unfair treatment then results to negative work outcomes (Tepper, 2000). More importantly, subordinates' reactions to abusive supervision transcend the supervisor-subordinate relationship. This occurs because subordinates often see their supervisors as an embodiment of the organisation (Eisenberger et al., 2010). Thus, when supervisors engage in hostile behaviours, this is perceived as a reflection of how the organisation treats its employees in general. Indeed, Tepper (2000) found that the relationship between abusive supervision and workplace attitudes and behaviours is mediated by organisational justice. That is, abusive supervision impacts on subordinates' perception of distributive justice (the fairness of allocation decisions), procedural justice (fairness of the process in which decisions are made), and interactional justice (fairness of interpersonal treatment during enactment of procedures). This perception of unfairness in the organisation causes frustration that leads to reduced organisational commitment, job satisfaction, life satisfaction, job performance, and greater intentions to quit since unfair treatment undermines employees' self-esteem and sense of fulfilment (Harris, Kacmar, & Zivnuska, 2007; Tepper, 2000). In addition, due to frustrations and negative emotions experienced by subordinates exposed to abusive supervisors, they are also likely to experience greater psychological distress (i.e., mental

state characterised by negative thoughts and feelings related to anxiety, fear or depression; Restubog et al., 2011; Selye, 1974).

Aside from a justice-based approach, scholars have also implicated reactance theory to explain how subordinates react to abusive supervision. According to this perspective, abusive supervision may be viewed by subordinates as a threatening event that results in loss of control or autonomy (Wright & Brehm, 1982). Thus, in order to regain their personal autonomy, subordinates will engage either in direct or indirect retaliatory behaviours (Zellars et al., 2002). However, due to the power imbalance inherent in supervisor-subordinate relationships, it would be unsafe for subordinates to directly retaliate towards their supervisors. Direct retaliation can potentially stop the mistreatment, but it may also trigger greater abuse from the supervisor (Zellars et al., 2002). Thus, subordinates may prefer to engage in indirect forms of retaliation that may be undetected or if observed may be left unpunished (Tepper, Henle, Lambert, Giacalone, & Duffy, 2008). For example, Zellars et al. (2002) found that abusive supervision is negatively related to organisational citizenship behaviours or OCBs (i.e., discretionary actions that promote organisational effectiveness; Organ, 1988). Examples of OCBs are helping co-workers with work concerns, speaking about the organisation favourably to outsiders, and not complaining about trivial problems (Organ, 1988). Subordinates may withhold OCBs in response to abusive supervision because these are discretionary and are performed over and above their duties and responsibilities as an employee. Another relatively safe form of indirect retaliation in response to abusive supervision is defensive silence (i.e., withholding information for fear of speaking up; Dyne, Ang, & Botero, 2003). Kiewitz, Restubog, Garcia, and Tang (August, 2010) found that abusive supervision is positively related to subordinates' defensive silence behaviour. They argued that this relationship is due to the

subordinates' fear that if they speak up, it may invite attention and consequently further reprisals from their supervisors.

Subordinates may also participate in other forms of behaviours that enable them to displace their frustrations and gain a sense of control from being abused. Given that supervisors are seen as an embodiment of the organisation and it would be unsafe to retaliate directly, subordinates may opt to engage in deviant acts against the organisation in general. Indeed, a number of studies have examined the relationship between abusive supervision and organisational deviance (i.e., hostile responses aimed at harming the organisation; Duffy et al., 2002; Mitchell & Ambrose, 2007; Robinson & Bennett, 1995; Thau & Mitchell, 2006). Specifically, Tepper and colleagues (2008) found that this relationship is mediated by affective commitment (i.e., employees' emotional attachment, involvement, and identification with the organisation; Allen & Meyer, 1990) such that perceptions of abusive supervision leads subordinates to feel disregarded and uncared for by the organisation. They also found that this mediated relationship was stronger if the norms for organisational deviance are high as opposed to low (i.e., the extent to which the organisation accepts deviance as an acceptable response to mistreatment; Tepper et al., 2008) within the organisation.

Similarly, frustrations experienced at the hands of the abusive supervisor may also spill-over through displaced aggression in the family environment (Hoobler & Brass, 1996; Restubog et al., 2011). For example, Hoobler and Brass (1996) found a positive relationship between perceptions of abusive supervision and family undermining (i.e., increased arguing and negative interactions within family members; Hoobler & Brass, 1996). That is, they argued that abused subordinates may opt to "blow off steam" towards their family members who they feel are safer targets and are under their "bastion of control". Restubog and colleagues (2011) extended these findings and reported that the

relationship between abusive supervision and family undermining is mediated by subordinates' psychological distress. Using both displaced aggression and the transactional model of stress (Lazarus & Folkman, 1984) they argued that individuals who experienced fear-based and anxiety-based stressors (e.g., abusive supervision) tend to engage in greater emotion-focused coping (i.e., behaviour intended to minimise negative emotions arising from the stressor) than problem-focused coping (i.e., behaviour intended to alleviate the source of stress). Since subordinates are unable to retaliate directly towards their supervisors, emotion-focused coping behaviour is manifested through spouse undermining.

Although most responses to abusive supervision are characterised by indirect forms, research has also found that subordinates may opt to directly retaliate towards their supervisors. Tepper and colleagues (2009) explored instances wherein subordinates directly retaliate by engaging in supervisor-directed deviance (i.e., deviant acts directed towards the supervisor; Robinson & Bennett, 1995). They explained that this relationship is plausible especially when the subordinates have high intentions to quit (i.e., subjective probability of leaving the organisation). That is, those employees who have formed concrete plans of exiting are less dependent on their supervisor and the organisation for the benefits they receive. Thus, these subordinates are less fearful of the potential consequences of direct retaliation. Figure 2 summarises extant research on the consequences of abusive supervision.

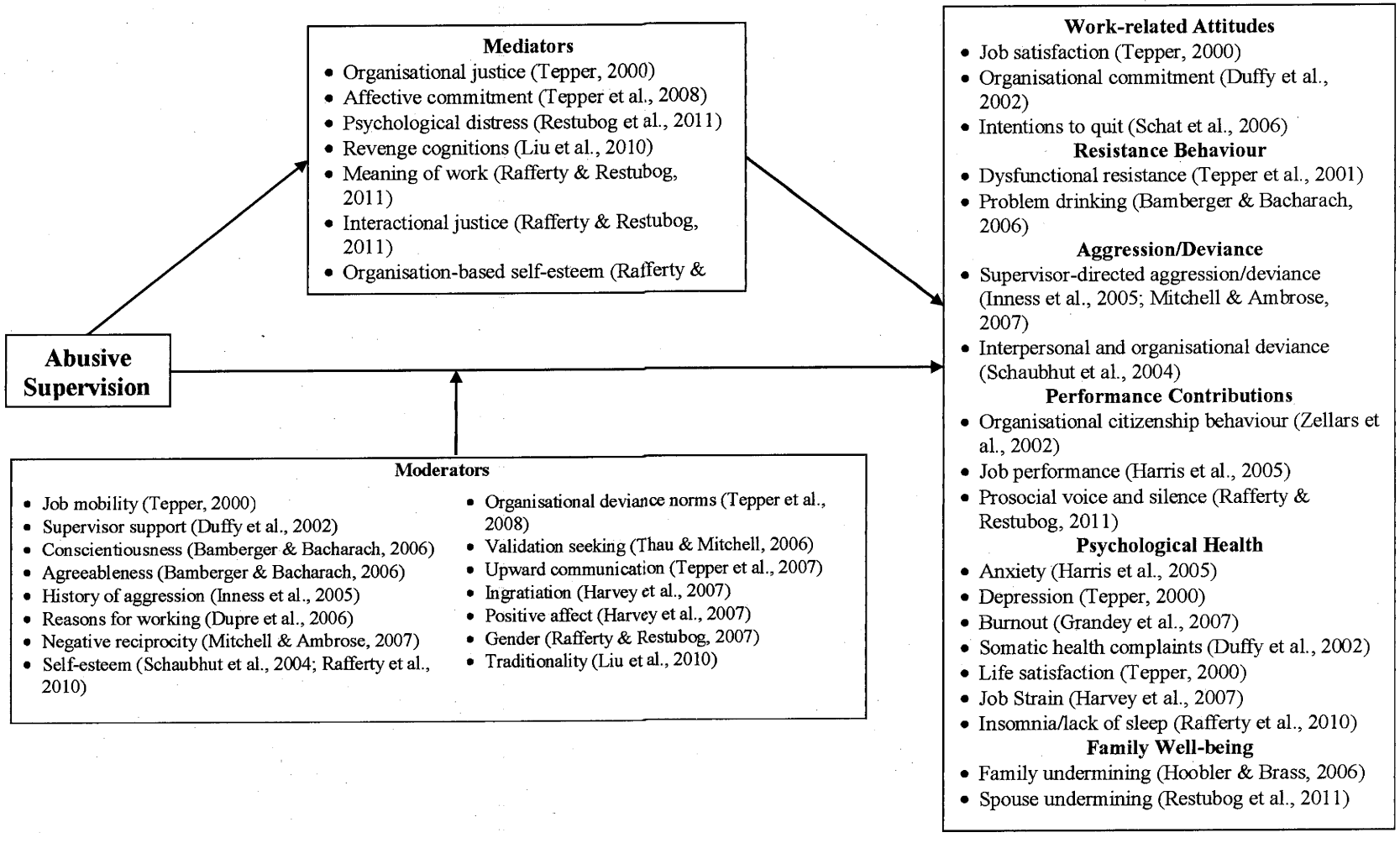


*Figure 2.* Conceptual map of the consequences of abusive supervision with mediators and moderators

**Literature Review Synthesis**

Although considerable research has been done regarding abusive supervision, there are still several theoretical and methodological gaps that need to be addressed. The following sections will discuss these gaps in more detail and provide its theoretical and practical implications. Furthermore, it will also briefly outline how the current study addresses these gaps by introducing a new theoretical lens by which abusive supervision can be examined.

Tepper (Tepper, 2007) pointed out the need to move beyond investigating individual-level factors that affect abusive supervision and encouraged future research to focus on antecedents and mechanisms that influence the occurrence of abusive supervision. This call is evidenced by the current paper as it revealed a current focus on the deleterious consequences of abusive supervision over investigations on why such behaviour occurs. Furthermore, extant literature regarding the antecedents of abusive supervision relied on a justice-based approach, focusing on situational antecedents such as interactional and procedural injustice and psychological contract breach. The problem with this approach is it neglects the possible influence of dispositional factors such as an individual's personality or past experiences and assumes that only factors in the organisation affect behaviour.

Another gap in the literature involves the lack of research on cognitive and affective mechanisms that drive abusive supervisory behaviour. Extant literature focused mainly on dispositional and situational factors that mediate and moderate abusive supervision without taking into account possible cognitive and affective processes that abusive supervisors go through before they engage in aggressive acts. This is the case despite the emergence of integrative and process-oriented theories that explain human aggression (Anderson & Bushman, 2002; Berkowitz, 1990; Huesmann, 1988).

On a theoretical note, studies conducted on abusive supervision framed it as a form of displaced aggression. However, recent studies proposed that this offers a weak and limited explanation of why supervisors abuse their subordinates (Breaux & Perrewé, 2009; Miller, Pedersen, Earleywine, & Pollock, 2003). First, according to Breaux and Perrewé (2009) the displaced aggression theory has not been tested experimentally in the context of abuse. Furthermore, it ignores the temporal characteristics of anger and frustration (Bushman et al., 2005) and presupposes that an initial provocation (e.g. injustice from the organisation) is enough to trigger an abusive reaction towards subordinates. Second, the displaced aggression theory discounts the possibility that abusive supervisors might bring dispositional characteristics (e.g. history of aggression) into the situation which means they have a hightened tendency to aggress. Third, it treats abusive supervision as a form of reactive aggression failing to explain possible mediating mechanisms that may underlie its occurrence. The displaced aggression explanation also fails to explain the sustained and personality-like characteristic of abusive supervision.

Extant literature on abusive supervision is also not replete with methodological limitations and issues. Upon close examination of the studies reviewed in this paper, most of these used cross-sectional research designs and/or single source data (Mitchell & Ambrose, 2007; Tepper, et al., 2006; Zellars et al., 2002). This greatly limits the generalisability of abusive supervision and raises issues of common method variance. It is important to address this concern especially since abusive supervision is based on subordinate's perception of abuse. It is therefore unclear whether these perceptions accurately correspond to actual abuse. Some might even be reluctant to admit that they have been victimised (Tepper et al., 2006). Obtaining multiple sources of data (e.g., supervisors, subordinates, organisational records) may address this issue. Another methodological gap that needs to be addressed is the reliance of extant work on self-report

measures. The use of such measures may impact on measurement validity due to response reactivity issues such as social desirability and test faking.

The present study addresses these limitations by looking at the process that mediates the relationship between history of family aggression and abusive supervision. It answers Tepper's call for a greater focus on antecedents of abusive supervision by exploring the role of history of family aggression as an antecedent to abusive supervision. Preliminary support for this relationship comes from the literature on family violence (Kernsmith, 2006; O'Keefe, 1998; Reitzel-Jaffe & Wolfe, 2001) and Social Learning Theory (Bandura, 1973, 1977).

The current research aims to introduce an alternative perspective in looking at the antecedents of abusive supervision drawing on basic human aggression and abuse literatures. Specifically, this research integrates the Social Learning Theory (Bandura, 1973) and the General Aggression Model or GAM (Anderson & Bushman, 2002) to serve as overarching frameworks of the research. The following sections provides a detailed discussion of the theoretical underpinnings of the research paper.

**Investigating Explanatory Mechanisms that Lead to Abusive Supervision**

The primary aim of this section is to address research gaps regarding the antecedents and mediating mechanisms of abusive supervision. Drawing on the literature from social psychology and interpersonal abuse, the study adopts the Social Learning Theory (Bandura, 1973) and General Aggression Model (GAM; Anderson & Bushman, 2002) as theoretical frameworks. The following sections provide an overview of the relationship between history of family aggression and future aggressive behaviour including the social learning of workplace aggression. Next, it focuses on exploring the process by which history of family aggression leads to abusive supervision using the GAM as a heuristic. Specifically, the study looks at the moderating role of angry rumination and

the mediating role of hostile cognitions and affect in explaining the occurrence of abusive supervision.

**Abusive Supervision as a Form of Aggression**

The present study adopts theories from social psychology and basic human aggression research to explain the occurrence of abusive supervision. Thus, it is important to justify why abusive supervision can be considered as a form of aggressive behaviour as it also gives credence to the applicability of social learning and GAM theories.

Aggression is defined as "any form of behaviour directed toward the goal of harming or injuring another human being who is motivated to avoid such treatment" (Baron & Richardson, 1993, p. 7). This definition states that behaviours can be considered as aggressive if hostile intent and motive are present. Although Tepper's (2007) conceptualisation of abusive supervision does not include any reference to the exact intent of the perpetrator (i.e., to cause harm or improve performance), it is framed as a form of aggression for two reasons. First, scholars have pointed out that intentions are private and oftentimes hidden events that are mostly difficult to ascertain (Bandura, 1983; Buss, 1971). In the case of abusive supervision, it is expected that supervisors are more likely to frame their behavior as non-aggressive even if their subordinates' perceive otherwise. Thus, researchers often have to infer based on the context and theory if a certain set of behaviours can be considered as aggression (Baron & Richardson, 1994). In the present case, abusive supervision is construed as a form of aggression because it is viewed as a behaviour that was formed from previous and repeated exposure to inter-parental aggression. Furthermore, the measure of abusive supervision used in this study overlaps with the content domain of workplace aggression. Second, extant literature on abusive supervision framed it as a form of displaced aggression (Tepper, 2007). Supervisors are

thought to engage in abusive behaviours as a form of indirect retaliation to mistreatment as was discussed earlier in this chapter.

**History of Family Aggression**

Consistent with previous research on family aggression, this study operationalises history of family aggression as observed inter-parental aggression (Delsol & Margolin, 2004; Kalmuss, 1984; O'Keefe, 1998). In particular, the extent to which the supervisors observed their parents aggress towards each other during childhood. The study focuses on observed inter-parental aggression for two reasons. First, this operationalisation is supported by the Social Learning Theory which states that one way of learning behaviours during childhood is through modeling or imitation (Bandura, 1973). Observational learning becomes an important learning mechanism for children since some behaviours (i.e., aggression) may be difficult or dangerous to learn through direct experience (i.e., trial and error approach: Bandura, 1977). Empirical evidence supports the salience of observational learning and modelling. In a classic experiment, Bandura, Ross, and Ross (1963) found that exposure to human and filmed aggressive models doubled aggressive behaviour in children relative to those who were not exposed to aggressive models. Second, violence in the family was more likely when males and females observed their parents hit one another than when they were the target of the violent acts (Kalmus, 1984). Moreover, modeling of family violence was not found to be sex specific or dependent on socially-learned sex roles (Kalmus, 1984). That is, Kalmus (1984) found that females who observed their fathers hit their mothers were as likely as males to be perpetrators as well as victims of marital violence.

The study also focuses on inter-parental aggression (i.e., aggression or violence between parents) because parents serve as primary role models during childhood (Bandura, 1973; O'Keefe, 1998). Indeed, in an experimental study, Bandura (1965) showed that

children are more likely to imitate the behaviour of a model who had been nurturant and had power over resources important for the child. Thus, children are more likely to learn from their parents in the family context since they have the power to provide security and nurturance (Maccoby, 1992).

**Forms of Family Aggression**

The effects of physical abuse on future aggressive behaviour have been extensively studied (Kalmuss, 1984; Mihalic & Elliott, 1997; Prino & Peyrot, 1994; Salzinger, Feldman, Hammer, & Rosario, 1993). However, researchers are now considering the impact of other forms of abuse (e.g., psychological and emotional abuse; Keashly, 1997; Kernsmith, 2006; Kiewitz et al., in press; Reitzel-Jaffe & Wolfe, 2001) recognising that these forms are more prevalent than physical abuse and equally detrimental (Ney, 1987).

The present study captures both physical and nonphysical forms of family aggression for two reasons. First, more often than not, both forms of aggression occur simultaneously (Nicholas & Bieber, 1997). It is rare that a child only experiences physical or verbal aggression by itself. For example, parents may verbally abuse their children while hitting them. Second, recent research suggests that verbal and nonverbal forms of aggression lead to even more detrimental effects on children because "it is more likely to change the child's view of the world and themselves" (Ney, 1987, p. 376) than other forms. In support for this, Teicher, Samson, Polcari, & McGreenery (2006) found that childhood exposure to parental verbal aggression has a stronger association with dissociation, limbic irritability, depression, and anger-hostility than physical aggression. In addition, shaming experiences were also found to be a more important predictor of adult abusive personality than experienced physical abuse (Dutton, van Ginkel, & Starzomski, 1995).

**History of Family Aggression and Future Aggressive Behaviour**

In this section, I briefly review the literature on history of family aggression as it relates to adult aggressive behaviour. Specifically, the review focuses on explaining the relationship between history of family aggression and aggressive behaviour through social learning theory. Then, the succeeding section discusses the applicability of the social learning theory in accounting for aggression in the workplace.

Numerous studies have found that aggression experienced in the past influences the enactment of aggressive acts in the future (Bandura, 1973, 1985; Cappell & Heiner, 1990; Geen & Donnerstein, 1998; Huesmann, 1988; Huesmann & Guerra, 1997). This "cycle of violence" is commonly called the intergenerational transmission of violence hypothesis, which posits that the propensity to engage in dysfunctional and antisocial behaviours is transferred from one generation to the next (Cappell & Heiner, 1990; Delsol & Margolin, 2004; Doumas, Margolin, & John, 1994). Specific evidence in support of this premise is derived from the family violence literature which established a relationship between experiences of family aggression during childhood and abusive interpersonal relationships during adulthood (Briere, 1987; Chermack & Walton, 1999; Hotaling & Sugarman, 1986; Kernsmith, 2006; O'Keefe, 1998; Reitzel-Jaffe & Wolfe, 2001; Straus, Gelles, & Steinmetz, 1980; Wolf & Foshee, 2003). For example, Chermack and Walton (1999) found that both observed and received family aggression during childhood are associated with aggression in future dating and marital relationships. Moreover, received aggression also predicted violence in non-dating (e.g., strangers, friends, co-workers, and bosses) relationships. Similarly, observed parental violence as a child or adolescent in males has been found to be a consistent predictor of wife battering (Hotaling & Sugarman, 1986).

A noteworthy study on the intergenerational transmission of violence hypothesis was done by Straus as part of the National Family Violence Surveys (Straus, 1990; Straus et al., 1980). Straus reported that both males and females who experienced physical

punishment as children were more likely to engage in both mild and severe marital violence as adults. Those men and women who had observed their parents hit each other were three times more likely to be violent towards their own partners compared to those who were not exposed to violence. Moreover, these participants also reported higher rates of physically abusing their own children.

Although both abused males and females are susceptible to becoming abusive adults in the future, studies have suggested that there are gender differences in transmission rates (Hotaling & Sugarman, 1986; Rosenbaum & O'Leary, 1981). Rosenbaum and O'Leary (1981) found that the positive relationship between witnessing violence as a child on later violent behaviour was stronger for males than for females. Specifically, there was no significant difference between those women who were victims of physical marital violence and those women in the control group (i.e., women who were not abused and were satisfied with their marriages) in terms of having witnessed inter-parental aggression. On the contrary, abusive husbands were found to have more likely witnessed inter-parental aggression in their families than husbands in the control group. Although men were more likely than women to transmit violence in their own families, evidence suggests that the impact of witnessing family violence is stronger for women than for men (Forsstrom-Cohen & Rosenbaum, 1985). That is, female college students who witnessed inter-parental aggression reported greater anxiety, depression, and aggressiveness than males.

**The Social Learning Theory**

In the family violence literature, the foremost theory used to explain the intergenerational transmission process is derived from Bandura's (1973, 1977) Social Learning Theory. It states that individuals learn the acceptability of aggressive behaviour through observation and direct experience. Schemas associated with interpersonal relationships are formed on the basis of how parents interact with the child as well as

towards each other. Specifically, constant exposure to aggression during childhood gives the idea that aggressive behaviour is an acceptable means of settling interpersonal conflicts and also increases one's tolerance for violence. Furthermore, observing aggressive behaviour in the family gives children the opportunity to model specific forms of interpersonal aggression (e.g., how to hit, what to hit with, when to hit, etc.). Indeed, Mihalic and Elliot (1997) noted that, "if the family of origin handled stresses and frustrations with anger and aggression, the child who has grown up in such an environment is at greater risk of exhibiting those same behaviours, witnessed or experienced, as an adult" (p. 21). Furthermore, positive outcomes from observed aggression increase the likelihood that the behaviour will be imitated. This is because the child expects the same positive consequences out of the same set of aggressive behaviours (Delsol & Margolin, 2004).

Exposure to violence does not necessarily lead to observational learning. Most of what we observe and eventually model as our own behaviour are stored symbolically in memory. Indeed, more often than not, individuals manifest modelled behaviour outside of the learning situation and in the absence of role models. Given this, Bandura (1973) presented four sub-processes that influence the nature and degree to which behaviour is learned. The first process concerns the individual's ability to attend to incoming information as well as the characteristics of the stimuli itself. For example, stimuli that are distinct, prevalent, and has emotional valence are most likely to capture attention. Second, the symbolically captured memory of the stimuli needs to be retained in memory. One way by which this is attained is through symbolic or cognitive rehearsal of the learned behaviour. Third, individuals need to reproduce and manifest the symbolically learned behaviour in order to gain experience and mastery. Lastly, manifested behaviour should be reinforced in order to be retained and to gain feedback regarding its utility.

Empirical findings in the abuse literature support the social learning perspective (Mihalic & Elliott, 1997; O'Keefe, 1998; Reitzel-Jaffe & Wolfe, 2001). For instance, in a subsample of males who witnessed inter-parental violence, O'Keefe (1998) demonstrated that acceptability of the use of violence in dating relationships differentiated those who inflicted dating violence from those who had not. A national study conducted by Mihalic and Elliott (1997) showed that, for women, observing violence as a child was indirectly associated with higher rates of marital violence and victimisation. This relationship was mediated by marital satisfaction and committing felony assaults during adolescence.

**Social Learning of Workplace Aggression**

Organisational scholars have only recently shifted their attention from investigating organisational antecedents of workplace aggression to including environmental factors outside of the organisation. This is the case despite past evidence suggesting the generalisability of Social Learning Theory in predicting aggression outside the family setting (Hotaling, Straus, & Lincoln, 1988; Straus, 1990; Widom, 1989). In fact, O'Leary-Kelly, Griffin and Glew's (1996) theoretical framework on organisational-motivated aggression is largely based on Bandura's (1973) Social Learning Theory. Dietz and colleagues (2003) pointed out that this is typical of organisational behaviour research which, for the most part, places "an artificial boundary between organisation and environment, thereby failing to consider that organisational behaviour might be as much a product of the forces outside of an organisation as it is a product of the organisation itself" (p. 318).

Nevertheless, a few studies provide empirical support for the social learning of workplace aggression. For example, Dietz and colleagues (2003) showed that violence in the community surrounding a plant predicted severe workplace aggression while a plant's procedural justice climate did not. This result was based on a sample of 250

geographically dispersed plants and longitudinal data from different sources. This relationship remained significant even after controlling for shared social causes such as economic deprivation, family disruption, and subcultures of violence. In a similar vein, it was found that a history of aggressive behaviour (i.e., how frequent the person engaged in aggressive acts during high-school and post high-school) predicted supervisor-targeted aggression in secondary jobs (Inness et al., 2005) and moderated the relationship between adverse working conditions and workplace aggression (Greenberg & Barling, 1999). Studies have also shown that people who grew up in aggressive-prone cultures are more likely to engage in aggression in different contexts (Garcia et al., 2010), including the workplace (Douglas & Martinko, 2001). On the whole, these studies demonstrate that workplace aggression can be learned through observation, imitation, and symbolic modeling of violence in an environment aside from the organisation.

Since research on the social learning of workplace aggression is still in its infancy, there are still gaps that need to be addressed. First, most of the research in this area focused on the role of previous aggressive behaviour and future workplace aggression (Greenberg & Barling, 1999; Inness et al., 2005). This neglects other ways an individual learns aggression. Based on the Social Learning Theory, people learn to be aggressive not only through direct experience but also through observation. Thus, there is evidence to suggest that even before an individual perpetrates aggressive acts, he/she learns the acceptability of aggression through witnessing others being victimised. Although the study by Douglas and Martinko (2001) examined the influence of aggressive home and neighbourhood cultures, they did not include mediating mechanisms that explain why and how these factors are related to workplace aggression. Second, little is known about the role of history of family aggression in influencing specific forms of workplace aggression such as abusive supervision. Most studies undertaken by management scholars focused on

the general area of workplace aggression as shown by the studies previously discussed. An exception to this is a recent research by Kiewitz and colleagues (in press) in which they demonstrated that supervisors' previous experience of family undermining (e.g., through verbal abuse) is a significant predictor of abusive supervision.

The present study addresses these gaps by looking at the relationship between observed inter-parental aggression and abusive supervision. Furthermore, it expands the literature on history of family aggression and abusive supervision by capturing the process and mediating mechanisms underlying this relationship. It frames abusive supervision as a result of a process wherein cognition and affect come into play. Specifically, it explores the relationship between psychological states and angry rumination as precursors to aggressive responding. The study adopts the General Aggression Model (GAM) developed by Anderson and Bushman (2002) as a framework in explaining the proposed mediating and moderating processes.

**The General Aggression Model**

This section provides an overview of the General Aggression Model (GAM; Anderson & Bushman, 2002). The discussion focuses on the GAM's episodic and personality process models, which identifies the different factors that influence aggressive behaviour. In the succeeding section, I present and discuss the proposed theoretical model as it relates to the GAM.

Current theories on human aggression (Anderson & Bushman, 2002; Berkowitz, 1990; Huesmann, 1988) all frame it as behaviour affected by situational and dispositional factors and that this effect goes through a multi-stage process. The General Aggression Model (GAM) by Anderson & Bushman (2002) appears to be the most parsimonious and integrative process-based theory of human aggression. It is based on previous domain specific theories on aggression (Bandura, 1973, 1983; Berkowitz, 1990; Huesmann, 1988;

Zillman, Katcher, & Milavsky, 1972) and has been empirically supported (Anderson, 1997; Anderson, Anderson, Dill, & Deuser, 1998; Anderson & Bushman, 2001; Anderson, Deuser, & DeNeve, 1995).

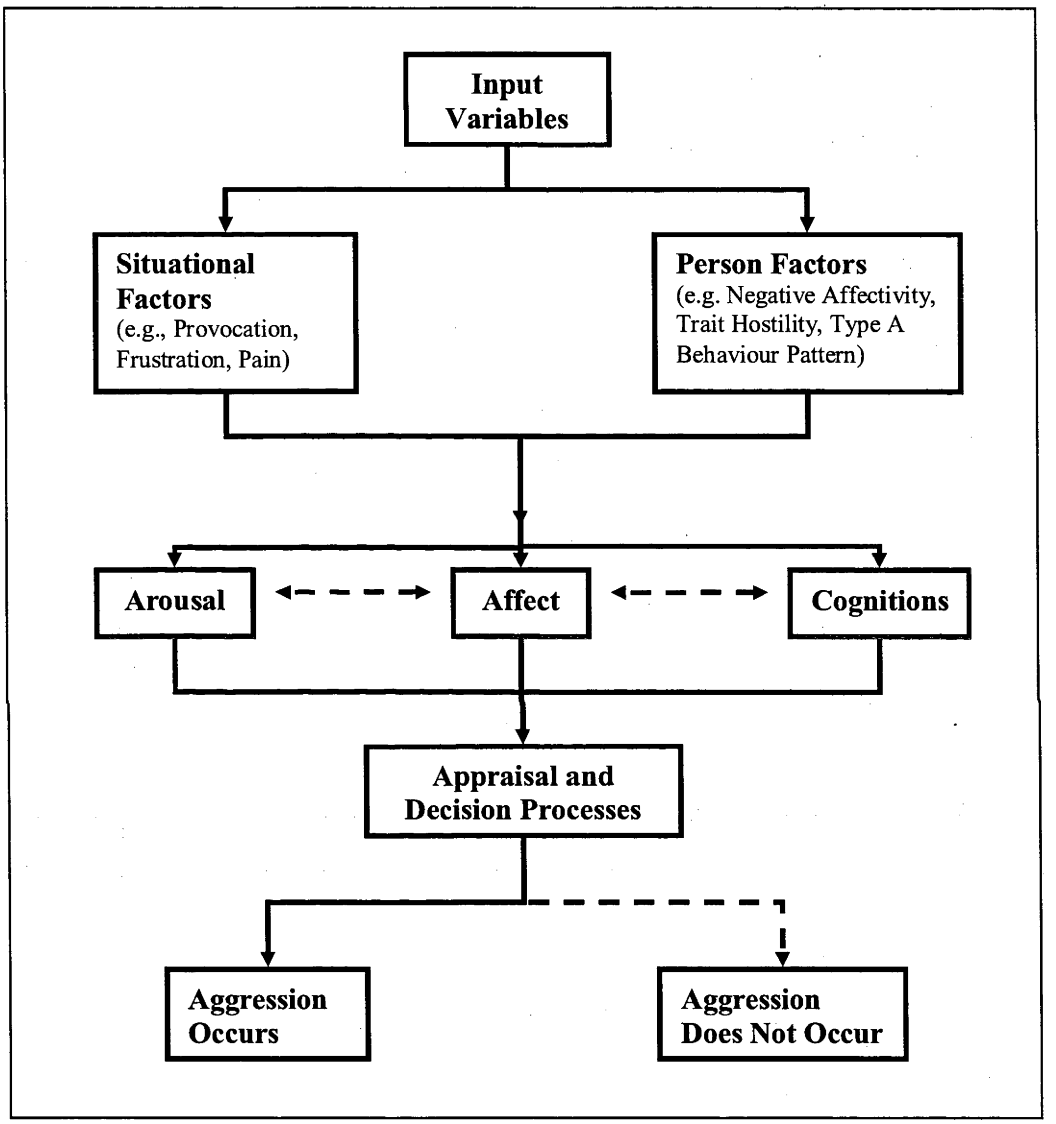


*Figure 3*. The General Aggression Model episodic process

Figure 3 shows a simplified version of the single episode model of the GAM (Anderson & Bushman, 2002). Each social interaction is composed of three interlinked stages that influence the nature and degree of aggressive responding. The first stage concerns the presence of input variables or the different biological, social, environmental, and dispositional factors that have been found to influence aggressive behaviour. The GAM categorises input variables into person and situation factors. Person factors are composed of characteristics the individual brings in a situation which includes traits, attitudes, and genetic predispositions. Indeed, research in human aggression has recognised that certain individuals are more prone to engage in high-levels of aggression (Crick & Dodge, 1994; Dill, Anderson, Anderson, & Deuser, 1997; Garcia et al., 2010). For example, it was found that individuals differ in their susceptibility towards hostile attribution (i.e., tendency to interpret stimuli in a hostile manner; Crick & Dodge, 1994) and that those who are high in hostile attribution bias are more likely to engage in aggressive behaviour (Dill et al., 1997). Similarly, Garcia et al. (2010) found that individuals who strongly endorsed negative reciprocity beliefs (i.e., unitary set of beliefs that favour retribution as a response to mistreatment; Gouldner, 1960) were more likely to engage in workplace aggression towards both co-workers and the organisation than those who did not.

Situational factors also act as input variables and include characteristics of the present situation such as the presence of aggressive cues and provocation (Anderson & Bushman, 2002). For example, Baron and colleagues (1999) reported that there was a positive relationship between perceived injustice in the workplace and aggression committed against co-workers and supervisors. They further proposed that high levels of

injustice in the workplace may spiral into an aggression and counter-aggression scenario in which even innocent third-parties (i.e., co-workers or customers) are affected.

The nature and presence of input variables influence psychological states. GAM theory (Anderson & Bushman, 2002) suggests that there are three main psychological mechanisms that operate within an individual namely cognitions, affect, and arousal. Some input variables may primarily traverse either one of these routes while others may activate each psychological state simultaneously. Anderson and colleagues (1995, 1997, 1998; Lindsay & Anderson, 2000) tested these propositions through several experiments on temperature and violent media. For instance, they found that exposure to violent media (Anderson, 1997) and pain (Lindsay & Anderson, 2000) are positively related to increased state hostility (affective psychological state). Conversely, violent media (Anderson, 1997) and gun primes (Lindsay & Anderson, 2000) are positively related to accessibility of aggressive thoughts (cognitive psychological state) but only with those low in trait hostility. They proposed that people high in trait hostility are so used to being chronically primed, that priming effects has little or no impact on them. In a similar experiment, Anderson and colleagues (1995) reported that temperature and exercise produce changes in both perceived (e.g., feeling active and energetic) and physiological (e.g., increased heart rate and body temperature) arousal

According to the GAM (Anderson & Bushman, 2002), before individuals engage in aggressive behaviour or thoughtful action, they go through an appraisal stage where framing and analysis of the present situation occurs. This is the stage in which information regarding intent, affect, and goal of the perpetrator are evaluated and the resulting response is justified. Aggressive and nonaggressive people differ on the kind of social inference they form. Specifically, aggressive individuals' appraisals are biased towards hostility

(Castro, Veerman, Koops, Bosch, & Monshouwer, 2002; Dill et al., 1997; Schultz, Izard, & Ackerman, 2000).

The present psychological state largely determines the type of inference formed during the appraisal process (Anderson & Bushman, 2002; Lindsay & Anderson, 2000). GAM theory claims that hostile cognitions, affect, and arousal gives rise to hostile appraisals. In partial support for this relationship, Zelli, Huesmann, and Cervone (1995) found that, relative to nonaggressive participants, aggressive individuals recalled more ambiguous sentences in response to aggressive cues than in response to semantic cues under a spontaneous processing condition. This suggests that chronic accessibility of aggressive thoughts lead to a hostile attribution bias (Wilkowski & Robinson, 2008). Less obvious is how a hostile affective state influences the appraisal process. One mechanism is through the interconnections of the different psychological states. It is believed that cognition and affect are part of semantic memory that can be primed via a spreading activation process. In short, priming hostile cognitions may consequently prime hostile affect and vice versa. Moreover, research has shown that oftentimes people's inference and decision processes are guided by affective states (Forgas, 1992; Schwarz & Clore, 1996).

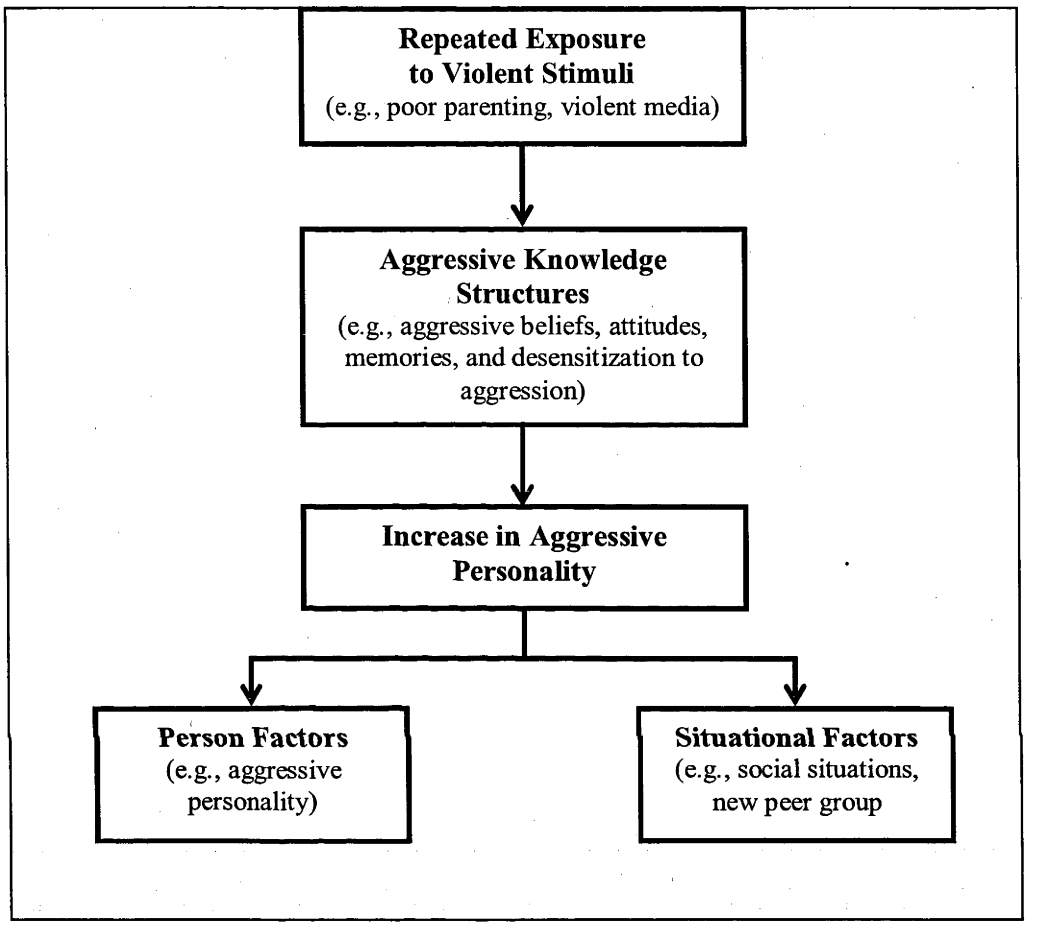


*Figure 4*. The GAM personality process

Although the GAM focuses on an episode of social interaction, it also accounts for the influence of past experiences on current and future behaviour. Figure 4 presents the GAM personality processes as outlined by Anderson and Bushman (2002). According to this model, repeated exposure to hostile stimuli (e.g., poor parenting or violent media) results in the development and automatisation of aggressive knowledge structures (e.g., aggressive beliefs, attitudes, memories, and desensitisation to aggression). Once these

knowledge structures become highly developed and accessible, it collectively forms the individual's hostile personality which then serves as an input variable in the GAM episodic process described earlier.

**The Proposed Theoretical Model**

Figure 5 outlines the proposed theoretical model based on the social learning theory (Bandura, 1973) and the General Aggression Model (Anderson & Bushman, 2002). The model presents an integration of both the GAM episodic and personality process models by linking supervisors' history of family aggression to subordinates' perceptions of abusive supervision. I propose that history of family aggression influences the episodic process by influencing the kind of psychological state experienced. That is, repeated exposure to observed inter-parental aggression leads to the chronic accessibility of hostile cognitions and hostile affect. Once hostile psychological states become active and accessible, this influences how supervisors interpret the social encounter (i.e., hostile interpretation of the interaction). This in turn increases the likelihood to engage in supervisory hostility towards the subordinate.

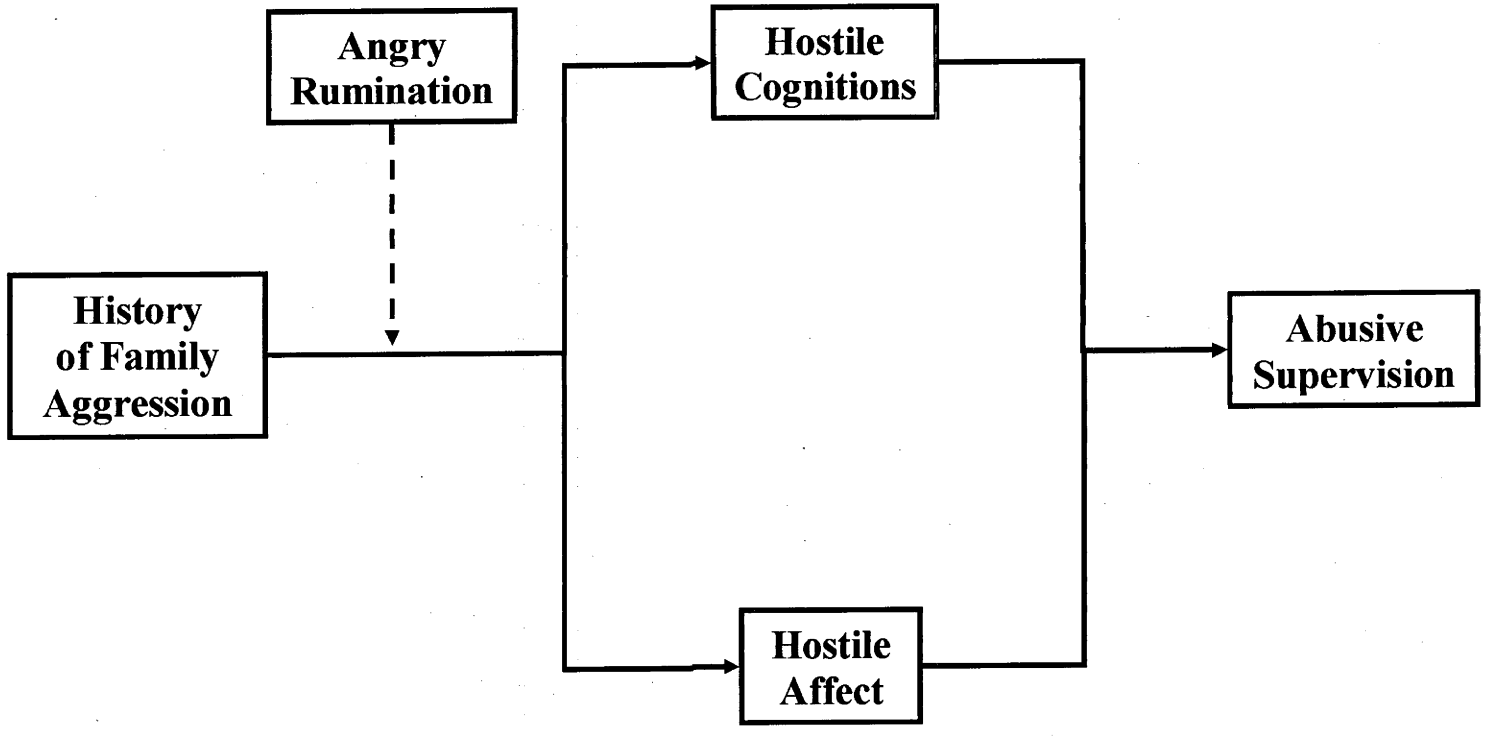


*Figure 5.* The proposed theoretical model

**History of Family Aggression and the Psychological States**

The GAM (Anderson & Bushman, 2002) highlights the importance of past experiences which is represented by what people bring with them to the present situation. According to the model, previous repeated exposure to aggression (e.g., media violence, poor parenting) results in long-term effects as aggression-related knowledge structures (e.g., aggressive beliefs, attitudes, schemata, behaviour scripts) are developed, automatised, and reinforced. Consistent with the social learning theory (Bandura, 1973, 1977), aggressive knowledge structures are strengthened in two ways. First, individuals learn the acceptability of aggression through direct experience and observation and each successful aggressive encounter serves as a learning trial. In the context of the present study, abusive supervisors are likely to engage in aggressive behaviours because it "worked" for them in the past. A person may acquire, retain, and possess aggression-related schemas but overt expression depends on whether the behaviour yields positive consequences (Bandura, 1973). For example, history of the use of aggression (i.e., frequency of hitting family members or others during high-school and post high-school) was found to be positively related to aggression against a co-worker (Greenberg & Barling, 1999). Second, repeated exposure to aggression reduces avoidance and distress from committing such injurious acts. Combined with positive reinforcement, individuals are gradually desensitised, increasing not only the likelihood of overt aggression but also its severity (Bandura, 1973).

GAM theory proposes that once aggressive knowledge structures are strengthened, it will in turn increase an individual's propensity to aggress and eventually produce an aggressive personality. Due to the stability of an aggressive personality, it is expected that they have acquired richly complex hostile schemata and belief systems that link aggressive

thoughts and affect in a variety of contexts. Thus, it acts as an input variable in an episode affecting both the psychological states and consequently aggressive behaviour (Anderson & Bushman, 2002). Based on the GAM (Anderson & Bushman, 2002) and the Social Learning Theory (Bandura, 1973), it is predicted that a history of family aggression increases the accessibility of hostile cognitions and affect by chronically priming individuals to think and feel in a hostile manner. Specifically, repeated observed inter-parental aggression in the past leads to developed, stable, and automatised knowledge structures which results in hostile cognitions and affect. However, similar to the studies done by Anderson and colleagues (Anderson, 1997; Anderson et al., 1998; Lindsay & Anderson, 2000), the exact sequence and direction of the effect remains unclear. History of family aggression may traverse the cognitive route and consequently "prime" hostile affect. Hostile affect activating hostile thoughts or simultaneous activation may also be possible. Due to the nature of the predictor variable and the methodology employed, the study focuses on the cognitive and affective psychological states. Give these, we make the following predictions:

*Hypothesis 1: History of family aggression will be positively associated with hostile cognitions.*

*Hypothesis 2: History of family aggression will be positively associated with hostile affect.*

*History of Family Aggression and Hostile Cognitions*

***History of family aggression and hostile cognitions.*** History of family aggression leads to the chronic activation of hostile cognitions (e.g., aggressive beliefs, memories, and concepts) in two ways. First, through social learning processes such as observational learning, repeated exposure to inter-parental aggression leads individuals to believe that aggression is an appropriate response to settle interpersonal conflicts because it either

worked for them in the past or they observed role models (i.e., parents) use it to gain positive consequences (Bandura, 1977). A more specific and detailed account of how observational learning translates to hostile cognitions across situations comes from Huesmann's (1986, 1988) work on aggressive scripts – which refer to sets of particularly well-rehearsed, highly associated concepts in memory, often involving causal links, goals, and action plans. According to this theory, once aggressive scripts are learned, it is stored in memory and may be retrieved later on to guide behaviour in a particular situation. The kind of script an individual employs in a given situation depends on his/her personal history and past experiences. Thus, a person who was exposed to aggression in the past tend to favour aggressive scripts because role models reinforced its use or it yielded positive consequences. In the context of the present study, exposure to observed inter-parental aggression results in hostile cognitions in the form of aggressive well-rehearsed aggressive scripts that predispose supervisors to behave aggressively across different situations.

It is also argued that history of family aggression leads to stable hostile cognitions through increasing the accessibility of aggressive concepts in memory. This can be explained by the cognitive neo-associationistic model (CNA; Berkowitz, 1990) which is another domain specific theory related to the GAM. In CNA theory, aggression-related concepts are linked together in memory similar to a semantic network (See Figure 6). Similar to the GAM, the CNA purports that repeated exposure to aversive stimuli leads to the strengthening of associations between relevant concepts in memory (i.e., darker lines represent stronger connections). Thus, each time a child observes his or her parents fight, certain aggressive concepts that are especially present during the episode (e.g., hitting, knife, anger) are strengthened resulting in increased automatisation and accessibility.

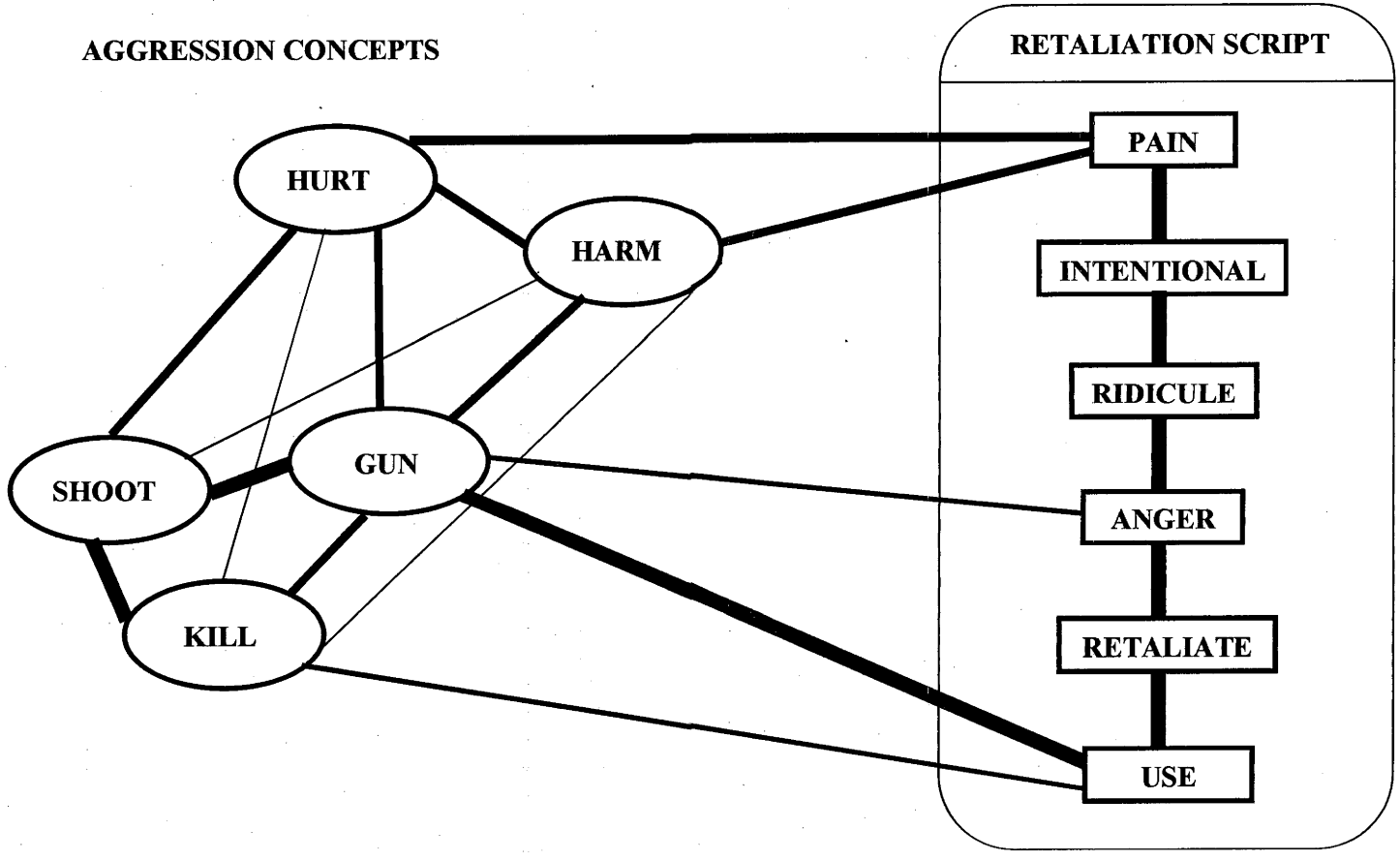


*Figure 6.* Simplified associative network (from Anderson et al., 1998; Anderson & Bushman, 2000)

***History of family aggression and hostile affect.*** The GAM, aggressive script, and CNA theories can also be used to explain the relationship between history of family aggression and hostile affect. Based on the CNA, aggressive concepts that are stored in memory may contain associated emotions that can be felt or accessed similar to hostile cognitions. For example, the concept "ridicule" may be linked to the emotion felt by the observer during the time the concept was encoded in memory which strengthens the relationship between the two. GAM theory supports this view by proposing that input variables may activate both cognitions and affect at the same time because they may be connected through a semantic network. The activation of an aggressive concept may consequently activate the emotion associated with it. Bushman and Geen (1990) tested this proposition using experimental data. They found that the model wherein both hostile cognitions and affect were accounted for was significantly better in predicting aggressive behaviour compared with a restricted model (i.e., only hostile cognitions or hostile affect was activated).

Similarly, script theory (Huesmann, 1988) suggests that affect influences the scripts that are encoded and retrieved from memory. As such, it is possible that individuals who observed inter-parental aggression do not only cognitively learn the appropriateness of aggression, but also reinforces negative affect felt during the episode. Thus, frequent exposure to anger-eliciting situations also leads to the chronic experience of anger across situations. Indeed, it is possible for certain individuals to be predisposed to experience and express anger more as opposed to others (Deffenbacher, Oetting, Lynch, & Morris, 1996).

**The Psychological States and Abusive Supervision**

In this section, I develop arguments that explain the role of the psychological states in linking history of family aggression and abusive supervision. Building on Social

Learning Theory, GAM theory postulates that once psychological states are primed in a hostile manner, these results in a greater predisposition to engage in aggressive acts (Anderson & Bushman, 2002). Individuals with highly accessible hostile cognitions and affect tend to engage in greater aggression because these influence their perceptions and appraisals of their situational environment. For example, Huesmann and Guerra (1997) found that those individuals with highly activated aggressive cognitions in the form of aggressive scripts engaged in more aggressive acts compared to those with less activated aggressive cognitions or scripts. The reason for this is that aggressive individuals' appraisals are influenced by their preference for aggressive behavioural strategies since it worked for them in the past. Furthermore, those individuals with highly accessible aggressive cognitions (i.e., scripts) believe in the appropriateness of aggression in settling interpersonal conflicts (Huesmann, 1988). Indeed, based on the social learning theory, observations and approval of aggressive interactions within the family results in the promotion of aggression as the best behavioural alternative during interpersonal conflict situations (Bandura, 1973; Mihalic & Elliot, 1997). Thus, highly accessible hostile cognitions result in abusive supervision because it predisposes supervisors to use aggression given a provocation.

Hostile affect in the form of anger also provides a justification for aggressive retaliation and may potentially interfere with higher-level cognitive processes, including those used in moral reasoning and judgment (Anderson & Bushman, 2002). Indeed, negative affect reduces people's ability to delay gratification (Clark & Isen, 1981). In addition, when a person feels angry, it may serve as a cue about appropriate actions to take (e.g., retaliation) especially in ambiguous situations (Anderson & Bushman, 2002). Overall, empirical evidence suggests that input variables (e.g., exposure to violent media

and video games) influence either one or both cognitions and affect which then increase aggressive behaviour (Anderson, 1997; Bushman & Anderson, 2002; Lindsay & Anderson, 2000). In the context of the present study, we expect that abusive supervisors engage in sustained displays of verbal and non-verbal hostility directed towards their subordinates because they appraise situations in an aggressive manner. That is, highly activated hostile cognitions influence the manner by which supervisors interpret and understand incoming information from their interactions with subordinates, especially in ambiguous situations. Similarly, their highly activated hostile affect predisposes supervisors to seek out situational evidence that validate their aggressive feelings. This in turn results in abusive supervisory behaviours. Given these theoretical considerations, it is predicted that:

*Hypothesis 3: The relationship between history of family aggression and abusive supervision is mediated by hostile cognitions.*

*Hypothesis 4: The relationship between history of family aggression and abusive supervision is mediated by hostile affect.*

**The Moderating Role of Angry Rumination**

Rumination is defined as the tendency to focus on negative self-evaluations or negative interpretation of one's life causing the amplification of negative emotion (Ray et al., 2005). In the aggression literature, angry rumination has been implicated as one important person factor that explains and predicts the occurrence of anger and aggressive behaviour (Denson, Pedersen, Ronquillo, & Nandy, 2009). Angry rumination involves thinking about and reliving an anger-eliciting event as well as cognitively rehearsing acts of retaliation (Denson, Pedersen, & Miller, 2006; Sukhodolsky, Golub, & Cromwell, 2000). Studies have also found that individuals differ on how situations are appraised,

which include whether one engages actively in rumination (Ray & Ochsner, 2005; Wilkowski & Robinson, 2008).

This study focuses on angry rumination as a moderator among other cognitive appraisal processes because it has been found to augment both direct and displaced aggression (Pedersen et al., 2011). That is, angry rumination has been found to directly increase the accessibility of aggressive thoughts and the experience of state anger (Pedersen et al., 2011). Ruminating about past experiences (i.e., observed family aggression) activates aggressive concepts in memory as well as the emotion experienced during the encounter. These activation processes are similar to a semantic network whereby hostile thoughts may yield hostile affect and vice versa (see Figure 6) (Berkowitz, 1990). Thus, angry rumination acts as the link between history of family aggression (i.e., past experience) and the individual's current psychological state (i.e., hostile cognitions and hostile affect).

Angry rumination may increase the accessibility of aggressive thoughts in relation to history of family aggression. Since aggressive concepts in memory are activated once a particular emotion is experienced, it is possible for the associations between aggressive concepts to be strengthened especially if the person ruminates about his or her negative experiences (Berkowitz, 1990). Furthermore, rumination can be used as a form of rehearsal for encoded behavioural scripts. When individuals replay what they have observed in the past, it becomes more readily accessible in memory (Huesmann, 1988). Rumination also gives individuals the opportunity to revise their aggressive scripts as ruminative thought grants them the opportunity to think about whether the aggressive strategy is appropriate given certain situations (Huesmann, 1988). Indeed, Denson and colleagues (2009) have shown that angry rumination involves the rehearsal of aggressive

scripts since both activate the region of the brain responsible for hostile cognitions. Thus, ruminating about previous experiences (i.e., observed inter-parental aggression) not only leads to the accessibility of aggressive thoughts but may also strengthen the belief that aggression is acceptable and appropriate across various situations. Thus, it is predicted that:

*Hypothesis 5: The conditional indirect effect of history of family aggression in predicting abusive supervision through hostile cognitions will be stronger for those individuals who engage in high as opposed to low levels of angry rumination.*

It is also argued that angry rumination may increase hostile affect in relation to history of family aggression. According to associative theories of affect (Berkowtiz, 1990; Clark & Isen, 1981), angry rumination may amplify the experience of negative emotion because it prolongs the activation of the emotional experience. Because angry rumination involves thinking about the angering incident, it continuously activates the emotion which then leads to the activation of other memories related to the emotion felt. This can be likened to a spreading activation process whereby rumination leads to the prolonged experience of anger and this experience consequently activates anger-related memories, which then intensifies the anger experienced. Indeed, numerous studies have supported the positive relationship between angry rumination and negative affect (Bushman, 2002; Pedersen et al., 2011; Rusting & Nolen-Hoeksema, 1998). The tendency to ruminate about past experiences therefore increases the likelihood that negative affect is experienced. Indeed, empirical evidence suggests that those individuals who were predisposed to ruminate about past offenses were more susceptible to feeling most hostile and to report greater aggressive behaviour (Bushman & Geen, 1990). In addition, a neuroimaging study conducted by Denson, White, and Warburton (2009) showed that areas of the brain

associated with negative affect were also found to be active during angry rumination following a provocation. Thus, in the context of the present study, it is expected that when supervisors ruminate about their past experiences (i.e., history of family aggression) this leads to a reactivation of hostile feelings related to the memories recalled. It is therefore predicted that:

*Hypothesis 6: The conditional indirect effect of history of family aggression in predicting abusive supervision through hostile affect will be stronger for those individuals who engage in high as opposed to low levels of angry rumination.*

**Summary**

In summary, I propose a moderated mediation model to explain the relationship between history of family aggression and abusive supervision. That is, I propose that the relationship between history of family aggression and abusive supervision is mediated by the individuals' psychological state (i.e., cognitions and affect). Specifically, history of family aggression increases the likelihood of abusive supervisory behaviour because it chronically activates hostility-related cognitions and affect. Furthermore, this mechanism is stronger for individuals who tend to ruminate about their past experiences such as observed family aggression during childhood.

## Organisation of the Dissertation

This dissertation is comprised of seven chapters and six studies. Chapter 1 has reviews the literature on abusive supervision, focusing on extant work regarding its antecedents and consequences. It also presents the proposed theoretical model and discusses both the theoretical rationale and empirical support for the hypothesised relationships. Chapter 2 reports Study 1 which examined the direct relationship between history of family aggression and the psychological states (i.e., hostile cognitions and

hostile affect) using a sample of university students. It also provides validity evidence for the Conflict Tactics Scale (CTS; Straus, 1979). Chapter 3 presents the findings of Study 2, which is aimed at testing the mediating role of hostile cognitions and hostile affect in the relationship between history of family aggression and abusive supervision. Chapter 4 presents the findings of Study 3 which aimed to constructively replicate Study 2 by using a different sample of employees from various organisations and using an implicit measure of hostile cognitions. Chapter 5 presents Study 4 which aimed to examine the proposed moderated mediation model specifically testing the conditional indirect effects of history of family in predicting abusive supervision via the psychological states at low and high levels of angry rumination. It also replicates results from the previous studies while controlling for previously-established antecedents of abusive supervision (e.g., organisational injustice and psychological contract breach) as well as supervisor and subordinate characteristics (age, gender, and subordinates' neuroticism). Chapter 6 reports Study 5 which tests the proposed model using a sample of parent-supervisor-subordinate triads. Study 5 strengthens the methodology by collecting data from an additional source (i.e., parent ratings of history of family aggression) in order to address issues arising from common method variance retrospective data (e.g., memory recall problems). Chapter 7 concludes the dissertation by synthesising the main findings, discussing implications in terms of theory and practice, and providing directions for future research.

# Chapter 2

## Study 1: The Relationship between History of Family Aggression and Psychological States

### Introduction and Hypotheses

The purpose of study 1 is to test the front part of the model. In particular, I examine the relationship between history of family aggression and two psychological states: hostile cognitions and hostile affect. Figure 7 depicts the hypothesised relationships that were examined in this study.

The GAM (Anderson & Bushman, 2002) suggests that repeated exposure to violence results in the increased activation and accessibility of psychological states. In this study, it is proposed that a history of family aggression (i.e., observed inter-parental aggression during childhood) would result in greater activation and accessibility of hostile cognitions and affect. History of family aggression increases hostile cognitions by way of the adaptation and consistent use of aggressive scripts (Huesmann, 1988). Specifically, children who were exposed to inter-parental aggression learn the acceptability of aggression which then results in the development of hostile-related action plans (i.e., scripts) that they use when faced with similar interpersonal conflicts. When these aggressive scripts yield positive outcomes, it becomes easier to retrieve in memory and more likely to be used in social interactions. In line with this reasoning, it is predicted that:

*Hypothesis 1: History of family aggression is positively related to hostile cognitions.*

Similarly, it is also expected that history of family aggression will increase the activation and accessibility of hostile affect. According to semantic memory theories (Anderson & Bushman, 2002; Berkowitz, 1990), aggressive concepts and memories are oftentimes stored together with associated emotions such as anger. Frequent exposure

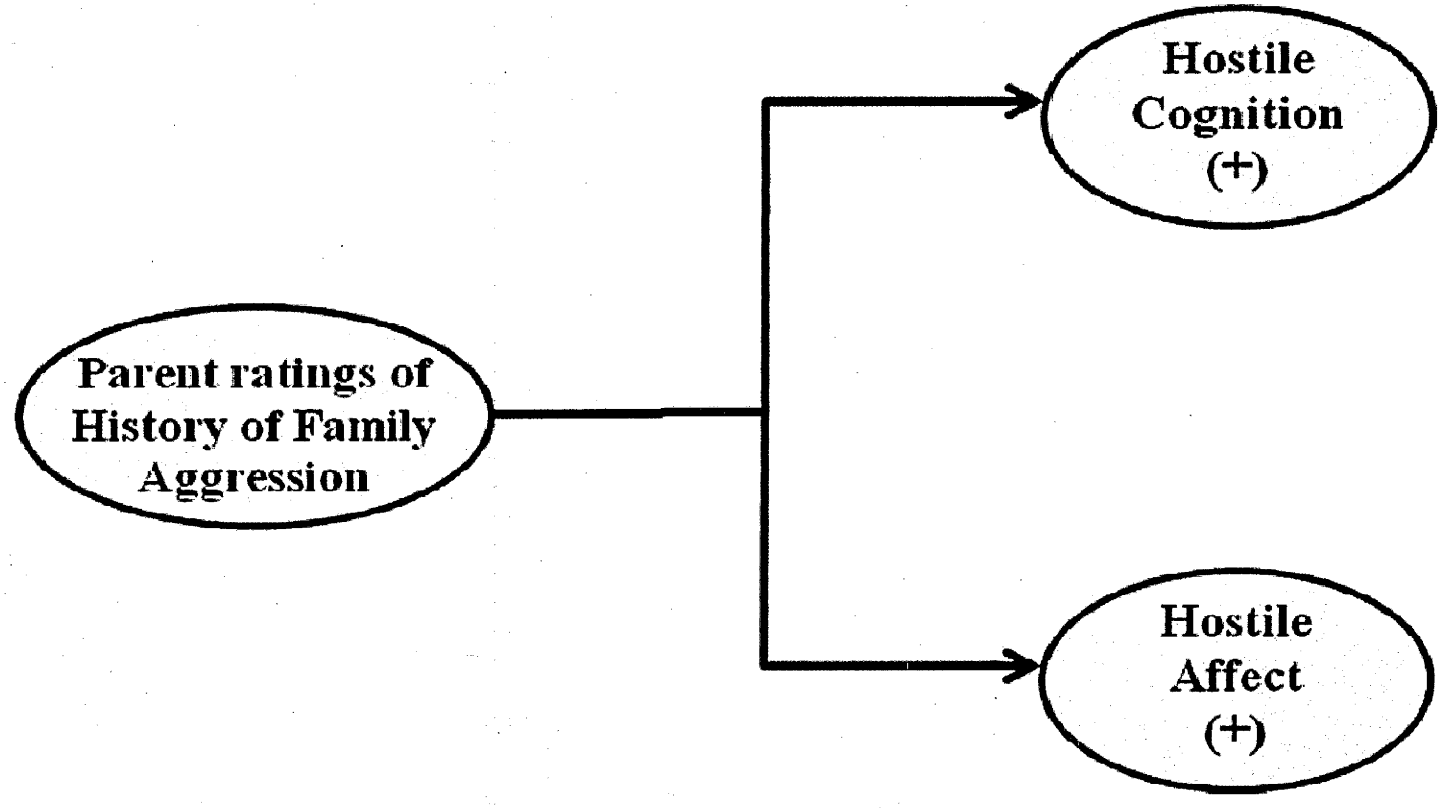


*Figure 7.* The predicted relationship between parent rated history of family aggression and hostile cognition and hostile affect (Study 1).

to aggressive concepts may also result in the frequent experience of negative emotion. For example, if anger is repeatedly experienced, it gets stored in memory together with the environmental cues that trigger it. Frequent exposure to aggression strengthens these connections enabling certain negative emotions more accessible and activated. Following this line of reasoning, it is predicted that:

*Hypothesis 2: History of family aggression is positively related to hostile affect.*

## Study 1 – Method

### Participants

Two hundred fifty-five student-parent dyads participated in this study. University students and their parents were recruited in a large private university in the Philippines. Students were chosen as participants for this study since most of them still live with their parents or legal guardians. This then facilitated collecting data from their parents. Participants were enrolled in various disciplines such as social sciences (e.g., psychology, 46.27%), education (20%), business and economics (e.g., management, 17.65%), and engineering (10.98%), while others (3.14%) did not indicate their current program/course. Of the 255 student participants, 69% were females and the average age was 18.13 years (*SD*=1.35). Among the parent participants, 66% were females and 60% of the parent participants were mothers, 20% were fathers, 9% were legal guardians, while 11% did not indicate their specific relationship with the focal participant. More than half (64%) of them are aged 50 years and below and 74% have lived with the focal student participant for at least 16 years.

### Procedure

Letters were distributed to lecturers and professors within the university to request permission to administer the survey questionnaires in their classes. The letter contained

information about the study as well as contact details of the researcher should they agree to participate. During survey administration, students were asked to read the information sheet provided describing the study as well as sign the informed consent forms. Students were reminded that they can withdraw from the study at any point in time and that this would not in any way jeopardise their performance in class or their relationship with the university.

Each student was given a survey kit which includes the student experiences questionnaire and the parent questionnaire (see Appendix for a sample of the questionnaires). To ensure anonymity and confidentiality, the students were asked to generate an anonymous code which will be used to match the completed student and parent questionnaires. The anonymous code was generated by using the first two letters of their father's first name, the last two letters of their mother's first name, and the day of their birthday. Each student was also asked to use the same anonymous code for the parent questionnaire to facilitate matching of the two questionnaires. Students then answered the student experiences questionnaire and were requested to give the parent questionnaires to one of their parents or legal guardian.

Parents were provided with an information sheet and a consent form (see Appendix for a sample of the parent information sheet and consent form). They were instructed to place the completed questionnaires in the paid postage envelope provided and to affix their signature across the flap. Thus, completed parent questionnaires were sent directly to the researcher to minimise tampering and ensure the integrity of the data.

A total of 500 surveys were administered. Out of this, 315 student and 283 parent questionnaires were returned yielding a response rate of 63% and 56.6%, respectively. Sixty student questionnaires and 28 parent questionnaires were excluded from the study

based on the following grounds: 1) either the student or parent questionnaire was not completed, 2) the student failed to generate an anonymous code, 3) parents failed to seal the paid postage envelope and affix their signatures across the flap, 4) students or parents failed to sign the informed consent forms provided. Thus, a total of 255 matched student-parent questionnaires comprised the final sample.

**Measures**

The questionnaires were prepared in English because this language is spoken by a vast majority of the Filipino population, especially among its well educated social strata (Bernardo, 2004). Furthermore, English was used as the medium of instruction in the University. Unless otherwise stated, participants responded using a seven-point Likert scale. The reliability coefficients for each measure in this study are reported later.

***Parent ratings of history of family aggression.*** History of family aggression was operationalised as previous observed inter-parental aggression. Based on Social Learning Theory (Bandura, 1973), aggression can be learned through observation of role models. Indeed, numerous studies have operationalised history of family aggression as the extent of observed inter-parental aggression (Cappell & Heiner, 1990; Chermack & Walton, 1999; Reitzel-Jaffe & Wolfe, 2001). History of family aggression was measured using a modified version of the Conflict Tactics Scale (CTS; Straus, 1979). The CTS measures family violence by asking respondents to report the frequency by which they engage in three modes of dealing with conflict: 1) reasoning (i.e., the use of non-aggressive tactics such as rational discussion), 2) verbal aggression (i.e., acts which symbolically hurt the other), and 3) physical aggression (i.e., the use of physical force to hurt the other) (Straus, 1979). For this study, only the verbal and physical aggression subscales were utilised

since the construct of interest pertains to aggressive acts committed by parents in front of the child.

The internal consistency of the items comprising the CTS has been analysed by computing for the item-total correlation and the alpha coefficient (Cronbach, 1970; Straus, 1979). For the verbal aggression scale, the average item-total correlation is .73 for husbands and .70 for wives. For the physical aggression scale, the average item-total correlation is .87 for husbands and .88 for wives. The CTS also obtained high alpha coefficients for measures of husband to wife and wife to husband aggression. Coefficient alphas ranged from .79 to .88 for the verbal aggression scale and .83 to .88 for the physical aggression scale.

The CTS also demonstrated adequate concurrent and construct validity. To assess concurrent validity, Bulcroft and Straus (1975) compared CTS scores for a sample of 105 students and 121 parents. The analyses revealed positive and high correlations for verbal aggression ($r$ = .43 to .52) and physical aggression ($r$ = .33 to .64) between student and parent ratings of family aggression. One way by which construct validity evidence was provided for the CTS is to correlate the physical and psychological aggression subscales. This comparison was based on the conflict-escalation theory of couple violence (Berkowitz, 1993). This theory proposes that verbal aggression directed against a partner increases the risk of physical aggression. In line with this theory, the correlation between the verbal and physical aggression scales were high and statistically significant (men, $r$ = .71, $p$<.01; women, $r$ = .67, $p$<.01), thereby providing evidence for construct validity.

In line with previous work (O'Keefe, 1998), parents in this study were instructed to recall their child's "worst" year in the family, that is, the time when the parent fought with his/her spouse the most and indicate the frequency (1 = never to 7 = always) in which the

child witnessed the parent use aggressive tactics toward his/her spouse during that year. A one-year referent period was used to reduce highly skewed data because marital violence is a low base phenomenon with a rate of 16% within a one year period (Straus, 1990). Example items include: "I yelled at my spouse" and "I threw something at my spouse". In this sample, Cronbach's alpha was .86. To establish concurrent validity evidence for this sample, we correlated parent ratings of history of family aggression with student ratings of history of family aggression. The resulting correlation coefficient was moderate and statistically significant ($r = .46, p<.01$).

***Hostile cognitions***. Hostile cognitions were measured using the general approval of aggression subscale of the normative beliefs about aggression (NOBAGS) developed by Huesmann and Guerra (1997). This subscale was chosen because it generally reflects approval of aggression based on learned social norms rather than on type of provocation (e.g., verbal or physical) or severity (e.g., strong or weak) (Huesmann & Guerra, 1997). It consists of eight items which capture hostile cognitions via an individual's beliefs on the acceptability of aggression. Students were asked to rate (1 = strongly disagree to 7 = strongly agree) whether they believe that certain statements are acceptable or not. The NOBAGS evidenced adequate internal consistency reliability ($\alpha = .90$).

According to the Social Information Processing theory (Crick & Dodge, 1994), individuals who believe aggression is acceptable may be more likely to encode aggression-related cues and to interpret situations as hostile leading to a higher propensity to aggress. Thus, to assess construct validity, the NOBAGS was correlated with measures of aggressive behaviour. Specifically, Huesmann and Guerra (1997) found that the NOBAGS predicted both peer-rated ($r = .18, p<.001$) and parent-rated aggression ($r = .08, p<.05$) providing evidence for construct validity. Example items in the NOBAGS include: "In

general, it is wrong to hit other people" and "If you're angry, it is ok to say mean things to other people". In this sample, Cronbach's alpha was .70.

***Hostile affect.*** Hostile affect was measured using the state hostility scale developed by Anderson and colleagues (1995). It consists of 19 self-relevant statements containing anger- and hostility-related adjectives. Students were requested to rate, using a seven-point Likert scale their current mood, particularly the extent to which they agree or disagree with statements such as "I feel furious" and "I feel angry". The state hostility scale has high internal consistency reliability ($\alpha = .93$) (Anderson et al., 1995). In this sample, Cronbach's alpha was .95.

Construct validity evidence for the state hostility scale comes from previous work using the method of contrasted groups (i.e., a construct is related to another construct due to qualities or characteristics of the group; Cohen & Swerdlik, 2002). Based on the GAM, personality factors may activate hostility related affect which may then increase the likelihood for aggressive behaviour to occur (Anderson & Bushman, 2002). One such personality factor is trait hostility (i.e., frequent experience of state hostility across time and situation; Judge, Scott, & Ilies, 2006). Results revealed that trait hostility was positively related to self-reported feelings of state hostility, $F(1,62) = 17.91$, $p<.001$, $MSE = .44$ (Lindsay & Anderson, 2000) providing evidence for the scale's construct validity.

## Results

The means, standard deviations, inter-correlations, and reliability coefficients of the study variables are presented in Table 2. Internal consistency of the scales was acceptable, with alpha values ranging from .70 to .95 (Nunnally, 1978). Furthermore, the zero-order correlations were all in the expected direction. Parent ratings of history of family aggression were positively associated with both student ratings of hostile cognitions

Table 2

*Means, standard deviations, and zero order correlations of Study 1 variables*

| Variables | *M* | *SD* | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|---|
| STUDY 1 (N = 255) | | | | | | | | |
| 1. Student gender | .69 | .46 | | | | | | |
| 2. Student age | 18.13 | 1.35 | -.12 | | | | | |
| 3. Parent age | 6.73 | 1.54 | .05 | .14* | | | | |
| 4. Parent ratings of history of family aggression | 1.80 | .69 | .01 | .05 | .08 | (.86) | | |
| 5. Hostile cognitions (NOBAGS) | 2.60 | .95 | -.15* | .00 | .01 | .16* | (.90) | |
| 6. Hostile affect | 2.28 | 1.12 | -.03 | -.18** | -.16* | .20** | .28** | (.95) |

*Note:* * $p < .05$. ** $p < .01$. *** $p < .001$.

($r$ =.16, $p$<.05) and hostile affect ($r$ =.20, $p$<.01). There were also significant correlations between some demographic characteristics and outcome variables. For example, student age was negatively related with hostile affect ($r$ =-.18, $p$<.01). Given these relationships, demographic characteristics were controlled for in subsequent analyses.

To test the predicted relationships, we used structural equation modeling (SEM) as the data analytic technique. SEM has two important advantages over the more conventional regression or path analysis approaches. First, SEM allows researchers to model latent constructs from a combination of multiple observed indicators as opposed to a single observed measure. Second, SEM takes into account measurement error and unexplained variance through the inclusion of residual terms both in the measurement and structural components of the model (Holmes-Smith, 2010). In line with Anderson and Gerbing's (1988) recommendation, a two-step procedure was conducted to estimate the relationships among the study variables. In the first step, a measurement model was estimated which is similar to a factor analysis. The measurement model allows researchers to model latent constructs based on the existing relationships between the observed variables in the model. The second step involves examining the relationship between the latent constructs formed which is similar to a path analysis. This step is called the structural component of SEM and determines how much variance is explained in the dependent variable by the proposed independent variables while considering measurement error and unexplained variance (Holmes-Smith, 2010).

**Measurement model**

Item parcels were created in order to improve the ratio of N relative to the number of parameters to be estimated (Little, Cunningham, & Shahar, 2002). An item parcel represents an aggregate level indicator comprising the average of two or more items (Little

et al., 2002). Parcelling offers several advantages over the use of item-level data especially for small sample sizes (Little et al., 2002). First, parcelled data is more parsimonious as there are fewer parameters to be estimated in the model. Second, due to its aggregated nature there are fewer chances for correlated error terms or dual loadings to emerge. Finally, parcelled data have been found to be statistically more reliable than individual item scores (Rushton, Brainerd, & Pressley, 1983). In combining the items into parcels, we used the factorial algorithm approach where factor analysis is used to guide the allocation of items to parcels. Specifically, three items were parcelled together by combining the two highest and lowest loadings, followed by the items with the next second highest and lowest loadings. This ensured that the parcels were "equally balanced in terms of their difficulty and discrimination" (Williams, Vandeberg, & Edwards, 2009, p. 550).

The next step involves the assessment of model fit. Specifically, this determines how much discrepancy exists between the implied variance covariance matrix and the sample variance covariance matrix (Holmes-Smith, 2010). A good fitting model is determined based on suggested cut-off scores from several fit statistics. Ideally a model should have the following fit statistics: 1) a chi-square p value of greater than .05, 2) RMSEA of less than .05, 3) a normed chi-square ($\chi^2$/df ) of greater than 1 but less than 2, 4) SRMR of less than .06, and 5) a Tucker Lewis Index (TLI) and Comparative Fit Index (CFI) of greater than .95 (Arbuckle, 2008; Holmes-Smith, 2010). However, researchers are cautioned to rely heavily on these "rules of thumb". Instead, the most important indicator of model fit should be whether the model is supported by substantive theory (Holmes-Smith, 2010). Given these, the measurement model in this study had a good fit with the observed data, $\chi^2$ (59, N=255) = 95.10, $p$<.002, $\chi^2$/df = 1.61, CFI = .98, TLI = .98, SRMR = .04, RMSEA = .05. (CI 90%: .030 - .067). The standardised path estimates of the

manifest indicators ranged from .62 to .99 and were all statistically significant at $p<.001$ (see Table 3).

I also compared the final measurement model against several alternative models. This ruled out the possibility that the alternative model better represents the data than the proposed model (Holmes-Smith, 2010). Model 1 incorporated all three constructs into one factor, $\chi^2$ (62, N=255) = 210.29, $p<.001$, $\chi^2/df = 3.39$, CFI = .93, TLI = .92, SRMR = .23, RMSEA = .10 (CI 90%: .083 - .112). Model 2 combined measures based on source; thus, student rated measures were combined (e.g., hostile cognitions and hostile affect) into Factor 1, and parent ratings of history of family aggression into Factor 2, $\chi^2$ (60, N=255) = 130.90, $p<.001$, $\chi^2/df = 2.18$, CFI = .97, TLI = .96, SRMR = .11, RMSEA = .07 (CI 90%: .052 - .084) [Model 1 vs. Model 2, $\chi^2$ diff(2) = 79.39, $p<.001$]. Results of the chi-square difference test between the final measurement model (three-factor model) and the best fitting two-factor model (Model 2) suggested that the former had the best fit [Final measurement model vs. Model 2, $\chi^2$ diff(1) = 35.80, $p<.001$].

Table 3

*Standardised Path Coefficients from Study 1 Measurement Model*

| Item | Path Coefficient |
|---|---|
| Parent Ratings of Observed Interparental Aggression | |
| A. Parcel 1 | .80 |
| • I threw something (but not towards my spouse) or smashed something | |
| • I threw something at my spouse | |
| • I hit (or tried to hit) spouse with something hard | |
| B. Parcel 2 | .99 |
| • I pushed, grabbed, or shoved my spouse | |
| • I threatened to hit or throw something towards my spouse | |
| • I insulted my spouse | |
| C. Parcel 3 | .62 |
| • I argued heatedly with my spouse but short of yelling | |
| • I sulked and/or refused to talk about it | |
| • I hit (or tried to hit) my spouse but not with something | |
| D. Parcel 4 | .81 |
| • I yelled at my spouse | |
| • I stomped out of the room | |
| Hostile Cognitions | |
| A. Parcel 1 | .68 |
| • It is wrong to insult other people | |
| • In general, it is okay to take your anger out on others by using physical force | |
| • It is wrong to take it out on others by saying mean things when you're mad | |
| B. Parcel 2 | .86 |
| • It is generally wrong to get into physical fights with others | |
| • It is usually okay to push or shove other people around if you're mad | |
| • In general, it is okay to yell at others and say bad things | |

Table 3 continued

*Standardised Path Coefficients from Study 1 Measurement Model*

| Item | Path Coefficient |
|---|---|
| C. Parcel 3 | .67 |
| • In general, it is wrong to hit other people | |
| • If you're angry, it is okay to say mean things to other people | |
| Hostile Affect | |
| A. Parcel 1 | .90 |
| • I feel outraged | |
| • I feel burned up | |
| • I feel angry | |
| B. Parcel 2 | .87 |
| • I feel furious | |
| • I feel bitter | |
| • I feel aggravated | |
| C. Parcel 3 | .77 |
| • I feel cruel | |
| • I feel disagreeable | |
| • I feel enraged | |
| D. Parcel 4 | .78 |
| • I feel stormy | |
| • I feel discontented | |
| • I feel like banging on a table | |
| E. Parcel 5 | .82 |
| • I feel like swearing | |
| • I feel like I'm about to explode | |
| • I feel like yelling at somebody | |

Table 3 continued

*Standardised Path Coefficients from Study 1 Measurement Model*

| **Items** | **Path Coefficient** |
|---|---|
| F. Parcel 6 | .92 |
| • I feel mad | |
| • I feel mean | |
| • I feel offended | |
| • I feel irritated | |

*Note*. N = 255. All loadings are standardised.

**Structural model**

To test the hypothesised structural model, we specified paths from history of family aggression to hostile cognitions and from history of family aggression to hostile affect. The hypothesized structural model had a good fit, $\chi^2$ (99, N=255) = 179.12, $p$<.001, $\chi^2$/df = 1.81, CFI = .97, TLI = .96, SRMR = .08, RMSEA = .06 (CI 90%: .043 - .070). The paths from parent ratings of history of family aggression and hostile cognitions (β=.17, $p$<.05) and hostile affect (β=.20, $p$<.01) were both significant (see Figure 8).

## General Discussion

The purpose of Study 1 is to examine the relationship between history of family aggression and hostile cognitions and hostile affect. The obtained results generally support the proposition that repeated exposure to inter-parental aggression (as rated by the parents) leads to an increase in students' experience of hostility-related thoughts and emotions. Consistent with GAM theory, there was a positive relationship between history of family aggression and hostile cognitions. This is thought to occur since an aggressive home environment communicates the acceptability of aggression which results in the use of aggression as a behavioural script (Bandura, 1973; Huesmann, 1988). Furthermore, an aggressive home environment triggers hostility related memories and concepts that become more accessible through repeated exposure. Hostile affect is also increased due to the associated emotions in encoded aggression related memories and concepts similar to a semantic network (Berkowitz, 1990).

This study has two main limitations. First, the participants in this study were Filipino university students. This means that the results may not be generalisable to other contexts such as the workplace. Second, it is assumed that parents and students share the

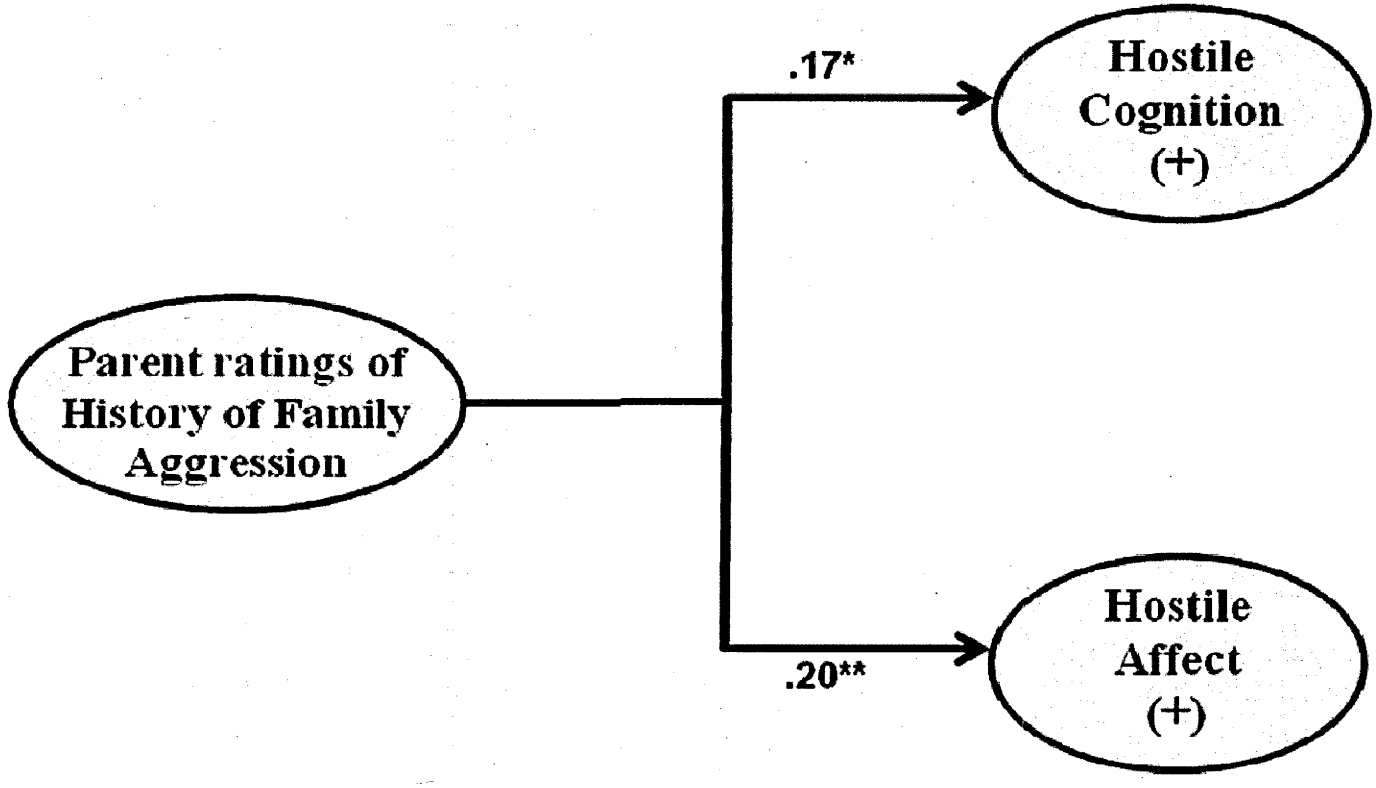


*Figure 8.* Structural equation model of the relationship between parent ratings of history of family aggression and the psychological states: hostile cognition and hostile affect (Study 1). Structural path estimates are standardised parameter estimates. To simplify the presentation, the measurement model has been omitted, and the correlations among the exogenous variables are not shown.

same experiences in terms of how much family aggression was experienced. Indeed, the correlation between parent and student ratings of history of family aggression in this sample was moderate and positive ($\beta$=.46, $p$<.01). However, it is still possible that there were certain instances wherein the parents were not aware that the child observed them during an aggressive encounter. Indeed, research suggests that parent and student perceptions may vary which may differentially influence the outcomes under investigation (Garcia, Restubog, Toledano, Tolentino, & Rafferty, 2011; Schultheiss, Kress, Manzi, & Glassock, 2011).

Despite these limitations, the current study has several strengths. First, it is the first attempt to examine the relationship between history of family aggression and the two psychological states. One exception is the work done by Langhinrichsen-Rohling, Hankla, and Stormberg (2004) which looked at the relationship between family-of-origin violence and hostile cognitions. However, the authors did not include hostile affect as psychological state and the study focused primarily on romantic relationships. Indeed, most studies examining the influence of family aggression on aggressive behaviour in the workplace did not take into account its implications on the individual's cognitions and affect (Douglas & Martinko, 2001; Inness et al., 2005). Second, utilising parent ratings of history of family aggression helped to minimise problems associated with common method variance and memory recall problems (Henry, Moffitt, Caspi, Langley, & Silva, 1994; Podsakoff & Organ, 1986).

**Summary**

In summary, the Study 1 results serve as a foundation for the subsequent set of studies in this dissertation. Specifically, it provides evidence for the relationship between history of family aggression and hostile cognitions and hostile affect. The next set of

studies then extends these findings to include a behavioural component - specifically aggressive behaviour - in the form of abusive supervision.

# Chapter 3

## Study 2: The Mediating Role of the Psychological States in the Relationship Between History of Family Aggression and Abusive Supervision

### Introduction and Hypotheses

This chapter presents the findings of Study 2 and has three main aims. First, Study 2 aims to replicate the results in Study 1 using a different sample (e.g., working MBA students) and context (e.g., organisational setting). This addresses concerns associated with the generalisability of results in Study 1. Second, it extends Study 1 by including abusive supervision in the theoretical model. In so doing, I examine the mediating role of the two psychological states (i.e., hostile cognitions and hostile affect) in the relationship between history of family aggression and abusive supervision (see Figure 9). Finally, it accounts for the supervisors' own experience of family aggression as parents and children may interpret the same phenomena differently (Garcia et al., 2012; Vondracek, 2007).

Similar to Study 1, the present study predicts a positive relationship between history of family aggression and the two psychological states:

*Hypothesis 1: History of family aggression will be positively associated with hostile cognitions.*

*Hypothesis 2: History of family aggression will be positively associated with hostile affect.*

It is also predicted that the relationship between family aggression and abusive supervision is mediated by the psychological states (i.e., hostile cognitions and hostile affect).

*Hypothesis 3: The relationship between history of family aggression and abusive supervision is mediated by hostile cognitions.*

*Hypothesis 4: The relationship between history of family aggression and abusive supervision is mediated by hostile affect.*

These predictions are grounded on the General Aggression Model (GAM; Anderson & Bushman, 2002). According to GAM theory, an input variable such as a history of family aggression influences the likelihood of aggressive behaviour through the present psychological state it creates. A history of family aggression chronically primes individuals to think and feel in an aggressive manner through developed aggression-related knowledge structures (e.g., beliefs in the appropriateness of aggression) and strengthened associations between aggressive concepts and emotions in memory (e.g., semantic networks; Berkowitz, 1990; Huesmann, & Guerra, 1997). Once activated, these psychological states influence how the individual interprets environmental cues and social interactions. For example, if the individual believes in the acceptability of aggression, this would justify the use of aggressive behaviour as a means to settle interpersonal conflicts (Mihalic & Elliot, 1997). Similarly, individuals who feel anger most of the time may fail to engage in reappraisals as hostility-related emotions may already serve as a cue to engage in aggression (Anderson & Bushman, 2002).

## Study 2 – Method

### Participants

One hundred fifty four supervisor-subordinate dyads participated in the study. The sample is primarily composed of working MBA students from a large university in the Philippines. Among the supervisors, 55.8% of the participants were males; 59.7% were above 30 years of age; and average organisational tenure was 2.69 years. Supervisors had supervised their subordinate for an average of 2.79 years. They worked in various

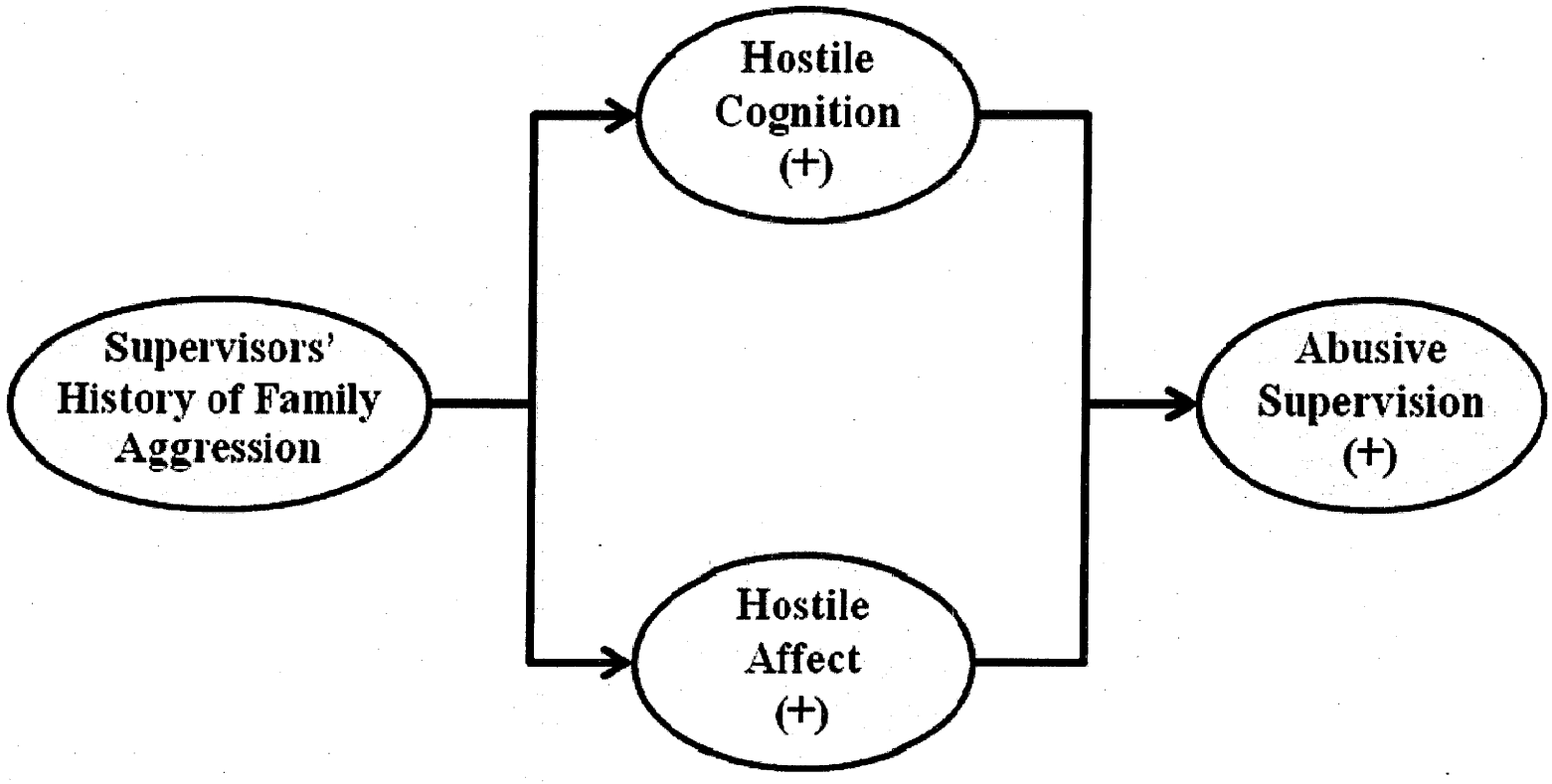


*Figure 9.* The predicted mediating role of hostile cognitions and hostile affect in the relationship between supervisors' history of family aggression and subordinates' perceptions of abusive supervision (Study 2).

business sectors such as hotels (22%), food and beverage (26%), airline and transport (25%), government service (22%), and others (marketing and sales, 5%). The subordinate sample consisted of 54.5% males; approximately 81.9% were in the 19-30 year-old age group; and average organisational tenure was 2.12 years.

**Procedure**

As part of a large scale project on leadership, survey kits were distributed to 258 full-time employees who were enrolled in the part-time MBA/Masters in Business program at a large private university in the Philippines. These employees were recruited from various business courses (e.g., finance, marketing, production management) included within the postgraduate business curriculum. Only those employees who were employed full-time and hold a supervisory role were included in the study. Similar to Study 1, supervisors were asked to read the information sheet provided describing the study as well as sign the informed consent forms (see Appendix for a sample information sheet and consent form). The supervisors were reminded that they can withdraw from the study at any point in time and that this would not in any way jeopardise their performance in class or their relationship with their respective organisations.

Each supervisor was given the supervisor questionnaire (see Appendix for a sample of the supervisor questionnaire) which contained demographic questions and scales that assessed history of family aggression, hostile cognitions, and hostile affect. Similar to Study 1, the supervisors were asked to generate an anonymous code to ensure anonymity and confidentiality of responses. The anonymous code was also used to match both completed supervisor and subordinate questionnaires. Upon completion of the supervisor questionnaire, supervisors were given a sealed envelope containing the subordinate questionnaire with demographic questions and scales that assessed abusive supervision

(see Appendix for sample subordinate questionnaire). The supervisors were asked to give the sealed envelope to a subordinate with whom they interact on a regular basis. An information sheet and consent form was also provided (see appendix for sample information sheet and consent form). Subordinates were requested to provide information concerning the behaviours of their immediate supervisor. They were reminded that the word "supervisor" referred to the supervisor who gave them the sealed envelope. Subordinates were instructed to place the completed questionnaires in the paid postage envelope provided and to affix their signature across the flap. Thus, completed subordinate questionnaires were sent directly to the researcher to minimise tampering and ensure the integrity of the data.

Out of the two hundred fifty eight surveys that were administered, one hundred ninety four supervisor questionnaires and one hundred seventy four subordinate questionnaires were returned yielding a response rate of 75.19% and 67.44%, respectively. Twenty seven surveys were disregarded because the employees were either working part-time or do not hold a supervisory position. An additional eight surveys were excluded because of a) wrong or missing anonymous codes, and b) a large number of missing responses (75% of the questions were not answered). Altogether, 154 of the 285 supervisor-subordinate surveys were matched and comprised the final sample. As an additional check, three research assistants randomly contacted 20% of the participating subordinates using the optional email/cell phone information that were obtained in the subordinate forms. Questions with respect to the nature of the questions and length of survey were asked to determine whether the subordinate had actually completed the survey. All subordinate participants provided accurate information supporting the integrity of the data.

**Measures**

Questionnaires were prepared in English because this language was spoken by a vast majority of the Filipino population (Bernardo, 2004). The response format for all items, except the demographic variables, was a seven point Likert-type scale, with items coded such that a higher score indicated greater amount of the focal construct.

***Supervisors' history of family aggression.*** As in Study 1, history of family aggression was assessed with the Conflict Tactics Scale taken from Straus (1979). In this study, supervisors were instructed to recall the "worst" year of their childhood, that is, the time when their parents fought the most and indicate the frequency (1 = never to 7 = always) by which they witnessed their parents use aggressive tactics toward the other during that year. Example items include: "One of my parents yelled at the other" and "One of my parents threw something at the other". For this study, the scale yielded a Cronbach's alpha of .86.

***Hostile cognitions.*** Similar to Study 1, hostile cognitions was measured using eight items from the general approval of aggression subscale of the normative beliefs about aggression scale (NOBAGS) developed by Huesmann and Guerra (1997). In this sample, Cronbach's alpha was .83.

***Hostile affect.*** As in Study 1, hostile affect was measured using the state hostility scale developed by Anderson and colleagues (1995). In this sample, Cronbach's alpha was .98.

***Subordinates' perceptions of abusive supervision.*** Subordinates were requested to rate the extent to which their supervisor has engaged in abusive behaviours using the 15-item scale developed by Tepper (2000). The scale evidenced adequate internal consistency reliability of .90. In examining the scale's predictive validity, Tepper (2000) found that the

measure correlated significantly with subordinates' job satisfaction ($r$ = -.35, $p$<.01), normative commitment ($r$ = -.27, $p$<.01), depression ($r$ = .18, $p$<.01) and anxiety ($r$ = .21, $p$<.01). Example items are: "My immediate supervisor tells me my thoughts or feelings are stupid", "My immediate supervisor reminds me of my past mistakes and failures" and "My immediate supervisor makes negative comments about me to others". Instead of the original five-point response scale, a seven-point scale was employed (1 = *I cannot remember him/her using this behaviour with me* to 7 = *He/she always uses this behaviour towards me*) for two reasons. First, a seven point scale affords participants a wide range of response anchors to choose from. Second, evidence suggests that that limited response options may result in loss of power and difficulty in detecting significant effects (Aguinis, Bommer, & Pierce, 1996). In this sample, Cronbach's alpha was .97.

## Results

Descriptive statistics, zero-order correlations, and reliability coefficients are presented in Table 4. Internal consistency of the scales was acceptable, with alpha values ranging from .83 to .98. Furthermore, all zero-order correlations were in the expected direction. Supervisors' history of family aggression was positively associated with hostile cognitions ($r$ = .57, $p$<.001), hostile affect ($r$ = .56, $p$<.001), and subordinates' perceptions of abusive supervision ($r$ = .60, $p$<.001). There was also a significant positive correlation between hostile cognitions and abusive supervision ($r$ = .54, $p$<.001) as well as hostile affect and abusive supervision ($r$ = .72, $p$<.001).

Table 4

*Means, standard deviations, and zero order correlations of Study 2 variables*

| Variables | *M* | *SD* | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|
| STUDY 2 (N = 154) | | | | | | |
| 1. Supervisors' history of family aggression | 3.60 | 1.18 | (.86) | | | |
| 2. Hostile cognitions | 3.71 | 1.05 | .57*** | (.83) | | |
| 3. Hostile affect | 3.63 | 1.44 | .56*** | .47*** | (.98) | |
| 4. Subordinates' perceptions of abusive supervision | 3.70 | 1.36 | .60*** | .54*** | .72*** | (.97) |

*Note:* * $p < .05$. ** $p < .01$. *** $p < .001$.

As in Study 1, structural equation modeling (SEM) was used as the data analytic technique. In line with Anderson and Gerbing's (1988) recommendation, a two-step procedure was conducted in order to estimate the relationships among the study variables. In the first step, a measurement model was estimated in order to establish the discriminant validity of the variables under investigation. In the second step, structural models were examined to test the study hypotheses. Demographic variables did not substantively affect the variables in the model. Thus, I elected to report results without control variables. Indeed, Williams et al. (2009) cautioned researchers on the arbitrary inclusion of control variables and advised that it should only be included in the model if there is strong theoretical justification.

**Measurement Model**

Item parcels were created in order to improve the ratio of N relative to the number of parameters to be estimated (Little et al., 2002). The resulting measurement model had a good fit with the observed data, $\chi^2$ (128, N=154) = 292.19, $p$<.001, $\chi^2$/df = 2.28, CFI = .95, TLI = .95, SRMR = .05, RMSEA = .09. (CI 90%: .078 - .100). The standardised path estimates of the manifest indicators ranged from .77 to .97 and were all statistically significant at $p$<.001 (see Table 5).

Table 5

*Standardised Path Coefficients from Study 2 Measurement Model*

| Item | Path Coefficient |
|---|---|
| Supervisor Ratings of Observed Interparental Aggression | |
| A. Parcel 1 | .77 |
| • One of my parents argued heatedly with the other but short of yelling | |
| • One of my parents threw something (but not towards the other) or smashed something | |
| • One of my parents pushed, grabbed, or shoved the other | |
| B. Parcel 2 | .91 |
| • One of my parents insulted the other | |
| • One of my parents stomped out of the room | |
| • One of my parents threatened to hit or throw something towards the other | |
| C. Parcel 3 | .89 |
| • One of my parents yelled at the other | |
| • One of my parents threw something at the other | |
| • One of my parents hit (or tried to hit) the other but not with something | |
| D. Parcel 4 | .81 |
| • One of my parents hit (or tried to hit) the other with something hard | |
| • One of my parents sulked and/or refused to talk about it | |
| Hostile Cognitions | |
| A. Parcel 1 | .79 |
| • In general, it is okay to take your anger out on others by suing physical force | |
| • It is usually okay to push or shove other people around if you're mad | |
| • It is wrong to insult other people | |
| B. Parcel 2 | .90 |
| • If you're angry, it is okay to say mean things to other people | |
| • In general, it is wrong to hit other people | |
| • It is wrong to take it out on others by saying mean things when you're mad | |

Table 5 continued

*Standardised Path Coefficients from Study 2 Measurement Model*

| Item | Path Coefficient |
|---|---|
| C. Parcel 3 | .88 |
| • In general, it is okay to yell at others and say bad things | |
| • It is generally wrong to get into physical fights with others | |
| Hostile Affect | |
| A. Parcel 1 | .95 |
| • I feel furious | |
| • I feel like banging on a table | |
| • I feel like I'm about to explode | |
| B. Parcel 2 | .93 |
| • I feel bitter | |
| • I feel burned up | |
| • I feel enraged | |
| C. Parcel 3 | .95 |
| • I feel mad | |
| • I feel offended | |
| • I feel like swearing | |
| D. Parcel 4 | .92 |
| • I feel stormy | |
| • I feel discontented | |
| • I feel mean | |
| E. Parcel 5 | .96 |
| • I feel outraged | |
| • I feel angry | |
| • I feel like yelling at somebody | |

Table 5 continued

*Standardised Path Coefficients from Study 2 Measurement Model*

| Items | Path Coefficient |
|---|---|
| F. Parcel 6 | .96 |
| • I feel aggravated | |
| • I feel irritated | |
| • I feel cruel | |
| • I feel disagreeable | |
| Abusive Supervision | |
| A. Parcel 1 | .89 |
| • Puts me down in front of others | |
| • Invades my privacy | |
| • Tells me I'm incompetent | |
| B. Parcel 2 | .89 |
| • Tells me my thoughts or feelings are stupid | |
| • Reminds me of my past mistakes and failures | |
| • Lies to me | |
| C. Parcel 3 | .97 |
| • Gives me the silent treatment | |
| • Doesn't give me credit for job requiring a lot of effort | |
| • Is rude to me | |
| D. Parcel 4 | .95 |
| • Does not allow me to interact with my co-workers | |
| • Expresses anger at me when he/she is mad for another reason | |
| • Breaks promises he/she makes | |

Table 5 continued

*Standardised Path Coefficients from Study 2 Measurement Model*

| Item | Path Coefficient |
|---|---|
| E. Parcel 5<br>• Ridicules me<br>• Makes negative comments about me to others<br>• Blames me to save himself/herself embarrassment | .92 |

The final measurement model was also compared against several alternative models. Model 1 incorporated all four constructs into one factor, $\chi^2$ (134, N=154) = 329.04, $p$<.001, $\chi^2$/df = 2.46, CFI = .95, TLI = .94, SRMR = .08, RMSEA = .10 (CI 90%: .084 - .111). Model 2 combined measures based on source; thus, supervisor response measures were combined (history of family aggression, hostile cognitions, and hostile affect) into Factor 1, and subordinates' perceptions of abusive supervision into Factor 2, $\chi^2$ (131, N=154) = 304.41, $p$<.001, $\chi^2$/df = 2.32, CFI = .95, TLI = .94, SRMR = .07, RMSEA = .09 (CI 90%: .079 - .107) (Model 1 vs. Model 2, $\chi^2$diff(3) = 24.63, $p$<.001). Model 3 combined the two psychological states (hostile cognitions and hostile affect) into Factor 1, history of family aggression as Factor 2 and subordinates' perceptions of abusive supervision as Factor 3, $\chi^2$ (129, N=154) = 297.80, $p$<.001, $\chi^2$/df = 2.31, CFI = .95, TLI = .94, SRMR = .07, RMSEA = .09 (CI 90%: .079 - .106) [Model 2 vs. Model 3, $\chi^2$diff(2) = 6.61, $p$<.05] Results of the chi-square difference test between the final measurement model (four-factor model) and the best fitting three-factor model (Model 3) suggested that the former had the best fit (Final measurement model vs. Model 3, $\chi^2$diff(1) = 5.62, $p$<.05). Table 6 shows a summary of the different measurement model tests for the present study.

Table 6

*Confirmatory Factor Analyses Model Fit Indices for Study 2*

| Model | $\chi^2$ | df | $\chi^2$/df | CFI | TLI | SRMR | RMSEA | $\chi^2$diff |
|---|---|---|---|---|---|---|---|---|
| One-factor | 329.04 | 134 | 2.46 | .95 | .94 | .08 | .10 | - |
| Two-factor | 304.41 | 131 | 2.32 | .95 | .94 | .07 | .09 | 24.63*** |
| Three-factor | 297.80 | 129 | 2.31 | .95 | .94 | .07 | .09 | 6.61* |
| Four-factor | 292.19 | 128 | 2.28 | .95 | .95 | .05 | .09 | 5.62* |

Note: One-factor model incorporates all four constructs; two-factor model combines supervisor rated variables (supervisors' history of family aggression, hostile cognitions, and hostile affect) into Factor 1 and subordinate rated variables (subordinates' perceptions of abusive supervision) into Factor 2; three-factor model combined the two psychological states (hostile cognitions and hostile affect) into Factor 1, history of family aggression as Factor 2 and subordinates' perceptions of abusive supervision as Factor 3; the hypothesised four-factor model contained all constructs individually. $\chi^2$ = difference between observed and obtained covariance matrix; $\chi^2$/df = the difference in $\chi^2$ from the previous (more parsimonious) model; TLI = Tucker-Lewis index; CFI = comparative fit index; SRMR = standardised root mean-square residual; RMSEA = root mean square error of approximation.

* $p < .05$. ** $p < .01$. *** $p < .001$.

**Structural Model**

To test the hypothesised structural model, paths were specified from supervisors' history of family aggression to hostile cognitions; from supervisors' history of family aggression to hostile affect; from hostile cognitions to subordinates' perceptions of abusive supervision; and from hostile affect to subordinates' perceptions of abusive supervision. The hypothesised fully mediated structural model (Model A) had a good fit, $\chi^2$ (130, N=154) = 299.69, $p$<.001, $\chi^2$/df = 2.31, CFI = .95, TLI = .95, SRMR = .07, RMSEA = .09 (CI 90%: .079 - .106). All the predicted paths were significant at $p$<.001. To compare this model to a partially mediated structural model, an additional path was added representing the direct effect of supervisors' history of family aggression on subordinates' perceptions of abusive supervision. This additional path was not statistically significant (path coefficient = .16; *ns*). The fit indices of the partially mediated model (Model B) were: $\chi^2$ (129, N=154) = 296.50, $p$<.001, $\chi^2$/df = 2.30, CFI = .95, TLI = .95, SRMR = .06, RMSEA = .09 (CI 90%: .078 - .106). The results of the chi-square difference test suggested that the partially mediated model did not have a better fit compared to the hypothesized Model A; $\chi^2$diff(1) = 3.19, *ns*.

**Test for Alternative Models**

Model A was compared with other theoretically plausible structural models. Based on the GAM (Anderson & Bushman, 2002; Anderson & Dill, 2000), input variables such as history of family aggression may also exert its influence on abusive supervision indirectly via a spreading activation process. That is, it is also plausible for history of family aggression to primarily influence one of the psychological states first before affecting the other (Anderson & Bushman, 2002). Indeed, research has shown that various

input variables may traverse either the cognitive or affective route (Anderson, Anderson, & Deuser, 1996).

Other domain specific theories of aggression also support this view. For example, attribution theory states that upon experiencing a triggered event (i.e., provocation or mistreatment) individuals form causal explanations first (attributions) which consequently guide how they feel and act in a given context (Weiner, 1986). In contrast, the cognitive-neoassociationistic model (CNA; Berkowitz, 1990) proposes that cognitive analysis of the situation is not a necessary condition to activate affective states. Indeed, empirical evidence shows that anger may arise even in the absence of attributions regarding intent (Berkowitz, 1983, 1990).

To test these alternative theoretical explanations, two additional structural models were constructed. For Model C, the direct path from supervisors' history of family aggression and hostile affect was constrained and an additional path was included from hostile cognitions to hostile affect. This represented the cognitive route to abusive supervision. The fit indices of Model C were: $\chi^2$ (131, N=154) = 338.14, $p$<.001, $\chi^2$/df = 2.58, CFI = .94, TLI = .93, SRMR = .15, RMSEA = .10 (CI 90%: .088 - .115). The results of the chi-square difference test suggested that Model A offers a significantly better fit than Model C; $\chi^2$diff(1) = 38.45, $p$<.001. For Model D, the direct path from supervisors' history of family aggression and hostile cognitions was constrained. Moreover, a path from hostile affect to hostile cognitions was added. This represented the affective route to abusive supervision. The fit indices of Model D were: $\chi^2$ (131, N=154) = 391.98, $p$<.001, $\chi^2$/df = 2.99, CFI = .93, TLI = .92, SRMR = .20, RMSEA = .11 (CI 90%: .101 - .127). Once again, the results of the chi-square difference test suggested that Model A (i.e., dual activation of hostile cognitions and affect) offers a significantly better fit than Model D;

$\chi^2$diff(1) = 92.29, $p$<.001. Overall, Model A was accepted as the final model (see Figure 10).

Next, the indirect effects of the two mediators were assessed using Preacher and Hayes's (2008) bootstrapping technique for multiple mediator models. This technique was used because it permits the estimation of indirect effects for multiple mediators and does not rely on the questionable assumption that the total and indirect effects are normally distributed (MacKinnon, Lockwood, & Williams, 2004; Preacher & Hayes, 2004). The total indirect effect of history of family aggression through both hostile cognitions and hostile affect was significant, with a point estimate of .46 and a 95% bootstrap confidence interval ranging from .31 to .60. Examination of the specific indirect effects revealed that hostile cognitions was a significant mediator (with a point estimate of .12 and a 95% bootstrap confidence interval ranging between .11 to .32) as was hostile affect (with a point estimate of .34 and a 95% bootstrap confidence interval ranging between .23 to .46). Overall, Hypotheses 1, 2, 3, and 4 were all supported.

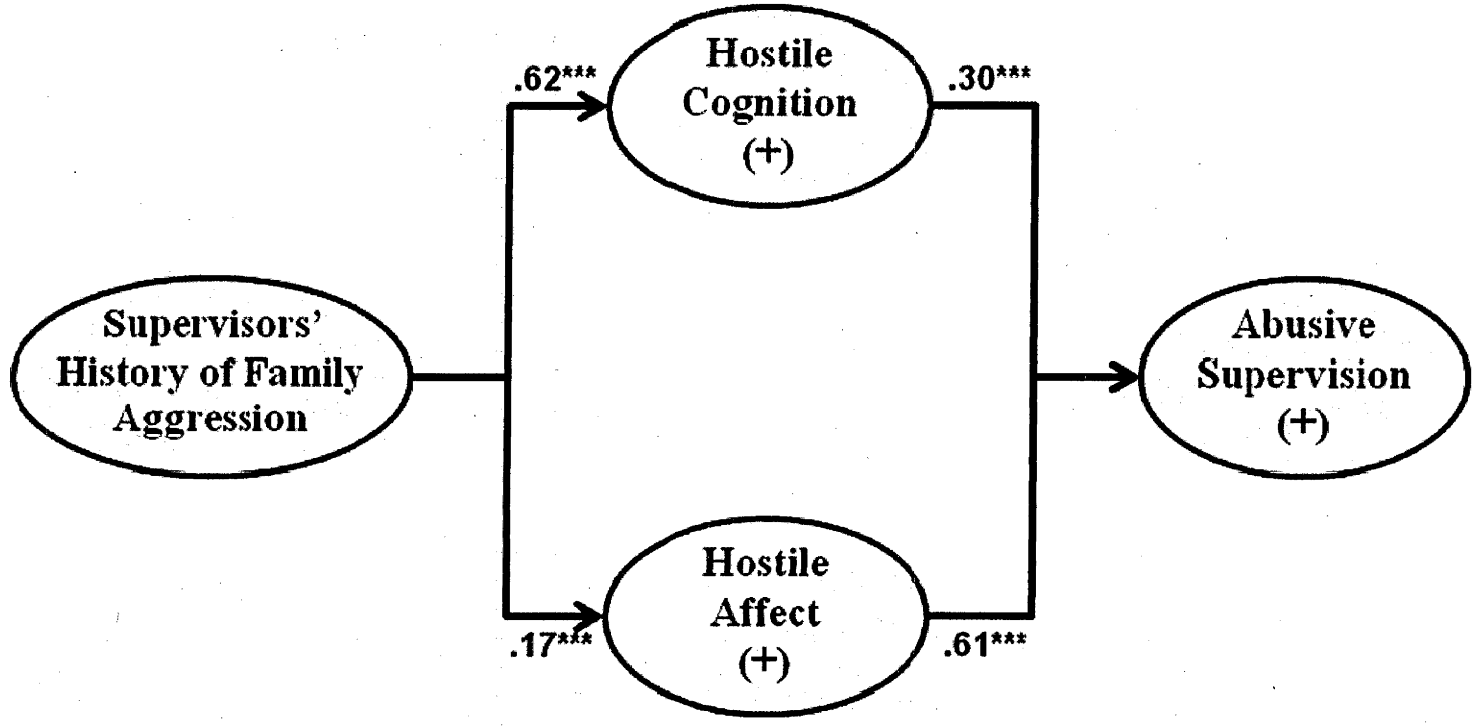


*Figure 10.* Structural model of the mediating role of hostile cognitions and hostile affect in the relationship between supervisors' history of family aggression and subordinates' perceptions of abusive supervision (Study 2). Structural path estimates are standardised parameter estimates. To simplify the presentation, the measurement model has been omitted, and the correlations among the exogenous variables are not shown.

## General Discussion

Study 2 was the first to investigate the link between history of family aggression (i.e., observed inter-parental aggression) and subordinates' perceptions of abusive supervision. The findings of this study supported the theoretical propositions derived from the General Aggression Model (Anderson & Bushman, 2002) and Social Learning Theory (Bandura, 1973). It demonstrates that history of family aggression influences perceptions of abusive supervision via both the cognitive and affective routes. Specifically, both hostile cognitions and hostile affect mediate the relationship between history of family aggression and abusive supervision. Moreover, it provides preliminary evidence that this influence occurs through a dual activation process of both hostile cognitions and affect.

Although support was found for the hypothesised relationships, one limitation of the current study is the use of self-reports to capture the psychological states. These measures could have been influenced by demand characteristics such as social desirability and acquiescence, particularly the measure that was used to capture hostile cognitions (i.e., asking participants to report how much they agree that aggression is acceptable behaviour; Spector, 2006). Furthermore, the NOBAGS only captured explicit social cognitions or the conscious or controlled thoughts of an individual regarding his or her attitudes or behaviour (Bing, LeBreton, Davison, Migetz, & James, 2007; Greenwald & Banaji, 1995). Indeed, there is growing consensus among personality theorists that in order to fully account for the influence of social cognitions on behaviour, researchers also need to tap into its implicit or unconscious nature (Bing et al., 2007; Greenwald & Banaji, 1995; McClelland et al., 1989). That is, the use of indirect measures that tap into the implicit aspect of social cognitions may offer additional and unique information over and above those captured by self-reports (Bing et al., 2007). Since it was expected that history of

family aggression produces highly automatic psychological states that are often activated with little conscious effort, it is important to account for this characteristic. Thus, the subsequent study is aimed at addressing these issues by constructively replicating Study 1 and using an indirect measure of hostile cognitions.

**Summary**

In summary, the results of the present study replicated and extended the findings of Study 1. First, using an organisational sample of supervisor-subordinate dyads, the relationship between history of family aggression and the two psychological states was once again supported. Second, Study 2 provided preliminary evidence for the relationship between history of family aggression and abusive supervision. The results showed that previous exposure to aggression in the family may lead to future aggressive behaviour in the workplace. Finally, consistent with the General Aggression Model (Anderson & Bushman, 2002) and social learning theory (Bandura, 1973), results showed that the relationship between history of family aggression and abusive supervision occurs via the chronic accessibility of hostile-related thoughts and emotions.

# Chapter 4

## Study 3: Constructive Replication of the Mediating Role of Psychological States in the Relationship between History of Family Aggression and Abusive Supervision

### Introduction and Hypotheses

According to Lykken (1968), statistical significance "is never a sufficient condition for concluding that a theory has been corroborated" (p. 158). In order to demonstrate an empirical fact, there should be a degree of confidence in the replicability of one's results. Similarly, Lindsay and Ehrenberg (1993) proposed that replications are the key to testing the generalisability of results. It enables researchers to test whether the same result would hold again in a different population or under different conditions. Lykken (1968) further differentiated between operational and constructive replication. Operational replication occurs when the researcher simply duplicates findings using the same methods of measurement and sampling. In contrast, constructive replication involves using a different set of methods to provide evidence of validity and generalisability. That is, if the constructs under investigation are indeed theoretically related, this relationship will be replicated regardless of what research design was employed or how the constructs were operationalised. Thus, the aim of the present study is to constructively replicate results obtained in Study 2 by using a different sample of supervisor and subordinates and using an implicit measure of hostile cognitions. Similar to Study 2, hostile cognitions and hostile affect are proposed to mediate the relationship between history of family aggression and abusive supervision giving rise to the following hypotheses:

*Hypothesis 1: History of family aggression will be positively associated with hostile cognitions.*

*Hypothesis 2: History of family aggression will be positively associated with hostile affect.*

*Hypothesis 3: The relationship between history of family aggression and abusive supervision is mediated by hostile cognitions.*

*Hypothesis 4: The relationship between history of family aggression and abusive supervision is mediated by hostile affect.*

Figure 11 summarises the proposed hypothesised relationships examined in Chapter 4.

Study 3 builds on Study 2 by addressing issues associated with the use of explicit self-report measures to capture the psychological states (i.e., NOBAGS; Huesmann & Guerra, 1997). Aside from response reactivity issues and common method variance (Fisher, 1993), the measures used to assess the psychological states should also capture its automatic and chronic nature. Recall that the Normative Beliefs About Aggression Scale (Huesmann & Guerra, 1997) used in Studies 1 and 2 is an explicit self-report measure of hostile cognitions. In this study, a word completion task was used to capture implicit social cognitions (i.e., unconscious or automatic thoughts an individual has about his or her attitudes or behaviour; Bing et al., 2007; Greenwald & Banaji, 1995) by measuring the accessibility of aggressive concepts in memory. It is an implicit measure in that it appears to be assessing the ability to complete word fragments when in fact it is measuring hostile cognitions. Indeed, there is growing consensus among personality theorists that in order to fully account for the influence of social cognitions on behaviour, researchers also need to tap into its implicit or unconscious nature (Bing et al., 2007; Greenwald & Banaji, 1995; McClelland et al., 1989). Data from self-reports are salient. However, it is the study's premise that implicit measures of social cognition will provide an additional and often

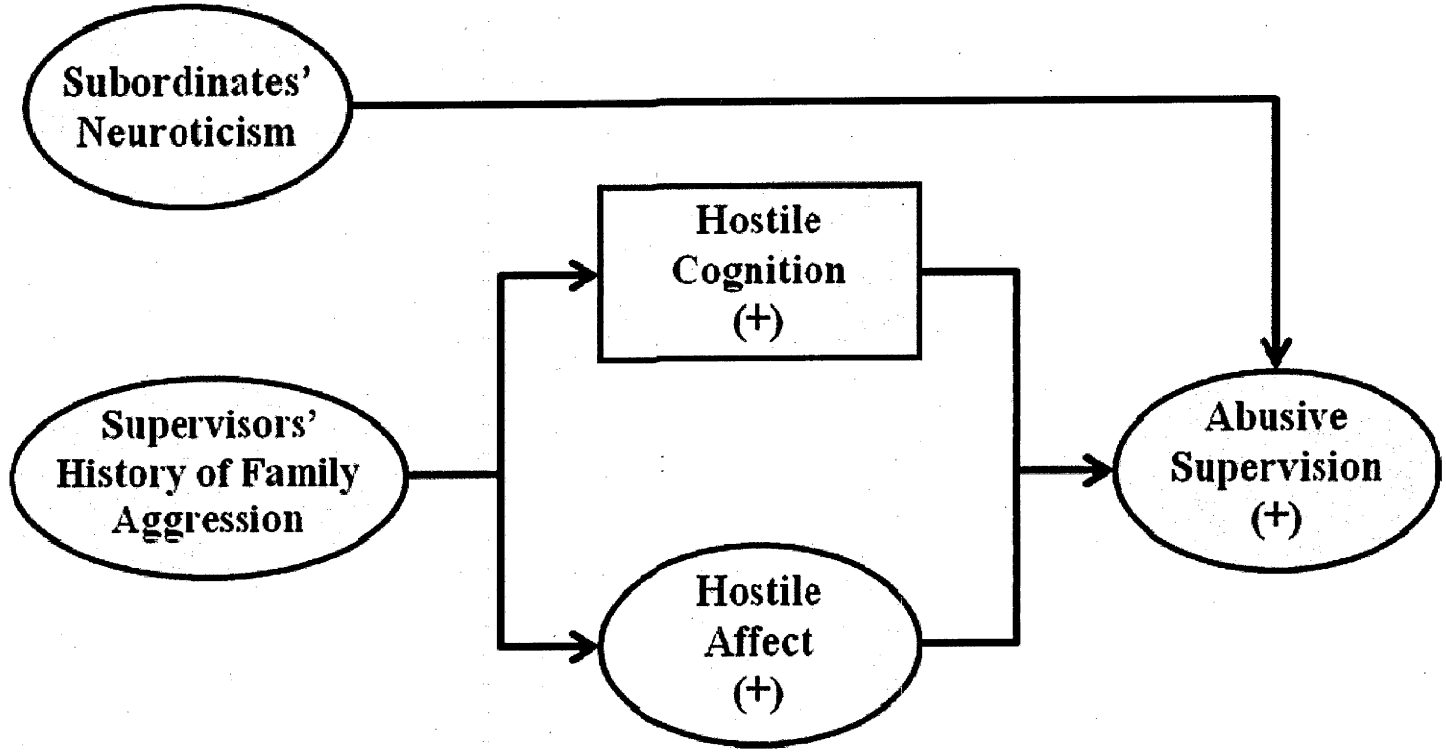


*Figure 11.* The predicted mediating role of hostile cognitions and hostile affect in the relationship between supervisors' history of family aggression and subordinates' perceptions of abusive supervision (Study 3). In this study, hostile cognitions was measured using the word completion task (Anderson, Carnagey, & Eubanks, 2003; Anderson et al., 2004) and subordinates' neuroticism was included as a control variable.

unique source of information as it taps into the automatic and implicit aspect of aggressive personality (in relation to self-reports) (Greenwald & Banaji, 1995; McClelland, et al., 1989).

## Study 3 – Method

### Participants

Full-time employees who were undertaking a management development program offered by the continuing education centre of a large university in the Philippines were recruited for this study. Similar to Study 2, only those employees who currently hold a supervisory position were included. The supervisor sample consisted of 62.3% females; 44% were above 30 years old; and average organisational tenure was 2.38 years. Supervisors had supervised their subordinate for an average of 3.75 years. They came from a diverse set of business sectors, including: sales and marketing (19.4%), restaurants (17.8%), financial institutions (16.2%), customer service (9.9%), human resources (7.9%), research and development (7.5%), manufacturing (7.3%), information technology (4.7%), public relations (3.7%), legal (2.5%), and others (3.1%). The subordinate sample comprised 62.8% females; approximately 60.7% were in the 19-40 year-old age group; and average organisational tenure was 3.30 years.

### Procedure

Similar to Study 2, supervisors were asked to read the information sheet provided describing the study as well as to sign the informed consent forms (see Appendix for a sample information sheet and consent form). The supervisors were reminded that they can withdraw from the study at any point in time and that this would not in any way jeopardise their performance in class or their relationship with their respective organisations. Supervisors were also asked to generate an anonymous student code to facilitate matching

the completed supervisor and subordinate questionnaires. The supervisor questionnaire contained demographic questions and scales that assessed history of family aggression, hostile cognitions, and hostile affect. After completion of the supervisor questionnaire, each supervisor was given a sealed envelope containing the subordinate questionnaire and information sheet and consent forms to be passed along to one of their subordinates (see appendix for sample subordinate questionnaire and information sheet and consent forms). Completed subordinate surveys were returned via mail in an enclosed, paid postage envelope.

Out of the three hundred supervisor and subordinate questionnaires administered, two hundred eighteen supervisors returned the supervisor surveys, for a response rate of 72.67%. Ten surveys were disregarded because of missing identity codes and a large number of missing responses. An additional eight supervisor surveys were dropped because the employees were either working part-time or running a family business (where the subordinate is an immediate family member). In contrast, two hundred twenty seven subordinate surveys were returned, for a response rate of 75.67%. Thirteen surveys were dropped because of missing or incorrect identity codes and a large number of missing responses. Altogether, this has resulted in a matched sample of 191 supervisor-subordinate dyads. Similar to Study 2, the researcher randomly contacted 20% of the participating subordinates using the optional email/cell phone information that were obtained in the subordinate questionnaires. All subordinate participants provided accurate information supporting the integrity of the data.

**Measures**

Similar to Studies 1 and 2, questionnaires were prepared in English and used a seven-point Likert scale for all measures with the exception of hostile cognitions.

***Supervisors' history of family aggression.*** As in Studies 1 and 2, history of family aggression was assessed with the Conflict Tactics Scale taken from Straus (1979). For this study, the scale yielded a Cronbach's alpha of .91.

***Hostile cognitions.*** Hostile cognitions was assessed using a word completion task (WCT) developed by Anderson and colleagues (2003, 2004). The WCT taps into the accessibility of aggressive thoughts by asking participants to fill in missing letters from 98 word fragments. Half of the items can be completed to form either aggressive or non-aggressive words. For instance, one item is "expl__e" may be completed as "explore" or "explode." Participants were each allocated three minutes to complete as many words as they can. An accessibility of aggressive thoughts score was calculated by dividing the number of aggressive word completions by the total number of word completions. Unlike the NOBAGS (Huesmann & Guerra, 1997) used in Studies 1 and 2, the WCT is an implicit measure of hostile thoughts making it less vulnerable to social desirability or acquiescence and accounts for the unconscious aspect of social cognitions.

Two validation exercises were undertaken to examine the construct validity of the word completion test. In the first validation study, using the same sample of 191 full-time employees, WCT scores were correlated with other established measures of hostile cognitions such as the NOBAGS (Normative Beliefs About Aggression Scale; Huesmann & Guerra, 1997) and the Hostile Automatic Thoughts Questionnaire (HAT; Snyder, Crowson, Houston, Kurylo, & Poirier, 1997). The HAT assesses the frequency by which individuals think of hostile thoughts such as "I want to hit this person" and "I want to destroy something right now". Indeed, both the NOBAGS ($r = .16$, $p<.05$) and the HAT ($r = .18$, $p<.05$) positively correlated with WCT scores. It is not surprising to obtain such low but significant correlations because the WCT is an implicit measure of hostile cognitions

(Bing et al., 2007; McClelland et al., 1989), while the NOBAGS and the HAT are explicit self-report measures of hostile cognitions. Indeed, indirect measures have been noted to assess additional and oftentimes unique information compared to self-reports (James & McIntyre, 2000).

Next, the association of WCT scores with constructs that have been found to be theoretically related to hostile cognitions was assessed. According to the GAM, highly developed aggressive knowledge structures results in aggressive traits and personality. A personality trait that has been associated with increased aggression is trait anger (Spielberger, Jacobs, Russell, & Crane, 1983). Based on GAM theory, WCT scores will be positively associated with trait anger. Indeed, there was a significant positive relationship between trait anger and WCT scores ($r = .25$, $p<.01$). Similarly, the GAM theory proposes that angry rumination consists of cognitive representations and elaborations of aggressive thoughts and feelings (Anderson & Bushman, 2002; Bushman et al., 2005). Thus, it is expected that more accessible hostile thoughts in memory (measured through WCT) will be positively associated with greater likelihood of angry rumination. Correlational analysis revealed a significant positive relationship between WCT scores and rumination ($r = .21$, $p<.01$). Finally, it is expected that WCT scores will be negatively related to self-control as it has been found to override automatic cognitive tendencies to aggress (Stucke & Baumeister, 2006). Correlational analysis suggests that WCT scores were significantly negatively related to self-control ($r = -.23$, $p<.01$).

In the second validation study, I collected data from an independent sample of 126 full-time employees. WCT scores were correlated with the Conditional Reasoning Test of Aggression (CRTA; Frost, Ko, & James, 2005; James, 1998), an implicit measure of aggression which taps into an individual's proclivity to use certain implicit biases in

reasoning that enhances the rational appeal of aggression. Correlational analysis revealed a significant moderate relationship between the CRTA and WCT ($r$=.41, p<.001) since both are implicit measures. Collectively, these validation efforts suggest that the word completion task is a valid measure of hostile cognitions.

***Hostile affect.*** As in Studies 1 and 2, hostile affect was assessed using the State Hostility Scale developed by Anderson and his colleagues (1995). In this study, the scale yielded a Cronbach's alpha of .96.

***Subordinates' perceptions of abusive supervision.*** As with Study 2, subordinates' perceptions of abusive supervision were measured using the scale developed by Tepper (2000). For this study, the scale yielded a Cronbach's alpha of .92.

***Subordinates' neuroticism.*** Subordinates' neuroticism or their general tendency to experience negative emotions across time and situations were controlled for in the analysis. Individuals high in neuroticism have been found to experience greater anxiety, tension, self-pity, hostility, impulsivity, irrational thinking, depression, and low self-esteem (John, 1989; McCrae & John, 1992). Subordinates' perceptions of abusive supervision may be influenced by their level of neuroticism. That is, those individuals high as opposed to low in neuroticism may perceive greater abusive supervision because of their low emotional stability. Indeed, Bolger and Zuckerman (1995) found that those high in neuroticism were more reactive to interpersonal conflicts that those low in neuroticism. Neuroticism was assessed using a 10-item scale developed by John and Srivastava (1999). Cronbach's alpha for this scale was .82.

## Results

The means, standard deviations, and zero-order correlations for the study variables are displayed in Table 7. Internal consistency of the scales was acceptable, with alpha

values ranging from .82 to .96. Zero-order correlations were all in the expected direction. Supervisors' history of family aggression was positively associated with hostile cognitions ($r$ = .19, $p$<.01), hostile affect ($r$ = .40, $p$<.001), and subordinates' perceptions of abusive supervision ($r$ = .28, $p$<.001). There was also a significant positive correlation between hostile cognitions and abusive supervision ($r$ = .15, $p$<.05) as well as hostile affect and abusive supervision ($r$ = .33, $p$<.001). In addition, subordinates' neuroticism was positively related to hostile affect ($r$ = .19, $p$<.05) and subordinates' perceptions of abusive supervision ($r$ = .38, $p$<.01). Thus, we controlled subordinates' neuroticism in the succeeding analyses.

**Measurement Model**

As in Studies 1 and 2, item parcels were created in order to improve the ratio of N relative to the number of parameters to be estimated (Little et al., 2002). Based on the results of the factor analysis, the items with the highest and lowest loadings for each construct were collapsed first, followed by the items with the next second highest and lowest loadings. The hypothesised measurement model had a good fit with the observed data, $\chi^2$ (85, N=191) = 137.69, $p$<.001, $\chi^2$/df = 1.62, CFI = .98, TLI = .97, SRMR = .04, RMSEA = .06 (CI 90%: .042-.081). The standardised path estimates of the manifest indicators (ranging between .65 and .93) were all statistically significant at $p$<.001 (see Table 8).

Table 7

*Means, standard deviations, and zero order correlations of Study 3 variables*

| Variables | *M* | *SD* | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| STUDY 3 (N = 191) | | | | | | | |
| 1. Subordinates' neuroticism | 3.23 | 1.02 | (.82) | | | | |
| 2. Supervisors' history of family aggression | 1.09 | .93 | .08 | (.91) | | | |
| 3. Hostile cognitions | .17 | .06 | .06 | .19** | | | |
| 4. Hostile affect | 2.23 | 1.02 | .19* | .40*** | .21*** | (.96) | |
| 5. Subordinates' perceptions of abusive supervision | 1.94 | .90 | .38** | .28*** | .15* | .33*** | (.92) |

*Note:* * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 8

*Standardised Path Coefficients from Study 3 Measurement Model*

| Item | Path Coefficient |
|---|---|
| Supervisor Ratings of Observed Interparental Aggression | |
| A. Parcel 1 | .86 |
| • One of my parents threw something (but not towards the other) or smashed something | |
| • One of my parents threw something at the other | |
| • One of my parents sulked and/or refused to talk about it | |
| B. Parcel 2 | .93 |
| • One of my parents threatened to hit or throw something towards the other | |
| • One of my parents pushed, grabbed, or shoved the other | |
| • One of my parents argued heatedly with the other but short of yelling | |
| C. Parcel 3 | .87 |
| • One of my parents hit (or tried to hit) the other but not with something | |
| • One of my parents hit (or tried to hit) the other with something hard | |
| • One of my parents insulted the other | |
| D. Parcel 4 | .73 |
| • One of my parents stomped out of the room | |
| • One of my parents yelled at the other | |
| Hostile Affect | |
| A. Parcel 1 | .93 |
| • I feel mad | |
| • I feel angry | |
| • I feel stormy | |
| B. Parcel 2 | .92 |
| • I feel offended | |
| • I feel enraged | |
| • I feel discontented | |

Table 8 continued

*Standardised Path Coefficients from Study 3 Measurement Model*

| Item | Path Coefficient |
|---|---|
| C. Parcel 3<br>• I feel like I'm about to explode<br>• I feel outraged<br>• I feel like banging on a table | .91 |
| D. Parcel 4<br>• I feel disagreeable<br>• I feel irritated<br>• I feel burned up | .88 |
| E. Parcel 5<br>• I feel bitter<br>• I feel aggravated<br>• I feel like yelling at somebody | .77 |
| F. Parcel 6<br>• I feel furious<br>• I feel mean<br>• I feel cruel<br>• I feel like swearing | .85 |
| <u>Abusive Supervision</u><br>A. Parcel 1<br>• Gives me the silent treatment<br>• Invades my privacy<br>• Ridicules me | .65 |

Table 8 continued

*Standardised Path Coefficients from Study 3 Measurement Model*

| Item | Path Coefficient |
|---|---|
| B. Parcel 2 | .80 |
| • Puts me down in front of others | |
| • Reminds me of my past mistakes and failures | |
| • Lies to me | |
| C. Parcel 3 | .90 |
| • Doesn't give me credit for job requiring a lot of effort | |
| • Breaks promises he/she makes | |
| • Makes negative comments about me to others | |
| D. Parcel 4 | .91 |
| • Blames me to save himself/herself embarrassment | |
| • Does not allow me to interact with my co-workers | |
| • Is rude to me | |
| E. Parcel 5 | .83 |
| • Tells me my thoughts or feelings are stupid | |
| • Expresses anger at me when he/she is mad for another reason | |
| • Tells me I'm incompetent | |

*Note*. N = 191. All loadings are standardised.

This measurement model was also compared with several alternative models. Model 1 incorporated all three latent constructs into one factor, $\chi^2$ (88, N=191) = 179.58, $p$<.001, $\chi^2$/df = 2.04, CFI = .96, TLI = .95, SRMR = .19, RMSEA = .08 (CI 90%: .063 - .097). Model 2 combined measures based on source; thus, supervisor measures were combined (supervisors' history of family aggression and hostile affect) into Factor 1 and subordinates' perceptions of abusive supervision into Factor 2, $\chi^2$ (86, N=191) = 155.44, $p$<.001, $\chi^2$/df = 1.81, CFI = .97, TLI = .96, SRMR = .11, RMSEA = .07 (CI 90%: .053 - .088), (Model 1 Vs. Model 2, $\chi^2$diff(2) = 24.14, $p$<.001). Results of the chi-square difference test between our measurement model (three factor model) and the best fitting two-factor model (Model 3) suggested that the former had the best fit $\chi^2$diff(1) = 17.75, $p$<.001. Hostile cognitions were not included in the measurement model because it represents a manifest indicator (i.e., single score). Table 9 shows a summary of the different measurement model tests.

**Structural Model**

Next, I examined a fully mediated model (Model A). The fit indices were: $\chi^2$ (146, N=191) = 220.98, $p$<.001, $\chi^2$/df = 1.51, CFI = .97, TLI = .97, SRMR = .07, RMSEA = .06 (CI 90%: .041 - .071). The predicted path coefficients were significant at $p$<.01. A partially mediated model (Model B) was also examined for which I specified an additional path representing the direct effect of supervisors' history of family aggression to subordinates' perceptions of abusive supervision, $\chi^2$ (145, N=191) = 217.60, $p$<.001, $\chi^2$/df = 1.50, CFI = .97, TLI = .97, RMSEA = .06 (CI 90%: .040 - .071). Results showed that this additional path was non-significant. Results of the chi-square difference test suggested that the partially mediated model did not have a significantly better fit compared to Model

Table 9

*Confirmatory Factor Analyses Model Fit Indices for Study 3*

| Model | $\chi^2$ | df | $\chi^2$/df | CFI | TLI | SRMR | RMSEA | $\chi^2$diff |
|---|---|---|---|---|---|---|---|---|
| One-factor | 179.58 | 88 | 2.04 | .96 | .95 | .19 | .08 | - |
| Two-factor | 155.44 | 86 | 1.81 | .97 | .96 | .11 | .07 | 24.14*** |
| Three-factor | 137.69 | 85 | 1.62 | .98 | .97 | .04 | .06 | 17.75*** |

Note: Hostile cognitions was not included as part of the confirmatory factor analyses because it was treated as a single manifest indicator. The one-factor model incorporates all three constructs (i.e., supervisors' history of family aggression, hostile affect, and subordinates' perceptions of abusive supervision); two-factor model combines supervisor rated variables (supervisors' history of family aggression and hostile affect) into Factor 1 and subordinate rated variables (subordinates' perceptions of abusive supervision) into Factor 2; the hypothesised three-factor model contained all constructs individually. $\chi^2$ = difference between observed and obtained covariance matrix; $\chi^2$/df = the difference in $\chi^2$ from the previous (more parsimonious) model; TLI = Tucker-Lewis index; CFI = comparative fit index; SRMR = standardised root mean-square residual; RMSEA = root mean square error of approximation.

* $p < .05$. ** $p < .01$. *** $p < .001$.

A, (Model A vs. Model B, $\chi^2$diff(1) = 3.38, *ns*). Thus, Model A was retained as the final model.

**Testing for Alternative Models**

Similar to Study 2, two additional alternative structural models were examined. For Model C, the direct path from supervisors' history of family aggression to hostile affect was constrained. I also added a path from hostile cognitions to hostile affect. This represented the cognitive route to abusive supervision. The fit indices of Model C were: $\chi^2$ (147, N=191) = 251.37, $p$<.001, $\chi^2$/df = 1.71, CFI = .96, TLI = .95, SRMR = .14, RMSEA = .06 (CI 90%: .052 - .080). The results of the chi-square difference test suggested that Model A offers a significantly better fit than Model C; $\chi^2$diff(1) = 30.39, $p$<.001. For Model D, the direct path from supervisors' history of family aggression to hostile cognitions was constrained. Moreover, an additional path was included to indicate the path from hostile affect to hostile cognitions. This represented the affective route to abusive supervision. The fit indices of Model D were: $\chi^2$ (147, N=191) = 243.54, $p$<.001, $\chi^2$/df = 1.65, CFI = .96, TLI = .96, SRMR = .14, RMSEA = .06 (CI 90%: .049 - .078). Once again, the results of the chi-square difference test suggested that Model A (i.e., dual activation of hostile cognitions and affect) offers a significantly better fit than Model D; $\chi^2$diff(1) = 22.56, $p$<.001. Overall, Model A was accepted as the final model (see Figure 12).

**Testing for the Indirect Effects of the Two Mediators**

Similar to Study 2, the significance of the indirect effects of the mediators in the proposed model (hostile cognitions and hostile affect) was tested using the Preacher and Hayes's (2008) approach for testing multiple mediators. The total indirect effect of supervisors' history of family aggression through both hostile cognitions and hostile affect

was significant with a point estimate of .20 ($p$<.001). The 95% bootstrap confidence interval ranged from .11 to .31. Specific indirect effects analysis shows that both hostile cognitions (β=.06, $p$<.05) and hostile affect (β=.13, $p$<.01) were significant mediators between supervisors' history of family aggression and subordinates' perceptions of abusive supervision. The confidence interval for the indirect effect of supervisors' history of family aggression on subordinates' perceptions of abusive supervision via hostile cognitions ranges from .02 to .13. In contrast, the confidence interval for the indirect effect of supervisors' history of family aggression on subordinates' perceptions of abusive supervision through hostile affect ranges from .06 to .24. Overall, Hypotheses 1 to 4 were supported.

## General Discussion

Once again, the results showed that supervisors' history of family aggression increases perceived abusive supervisory behavior through its influence on both psychological states. All the hypotheses were supported despite using a different sample and measure of hostile cognitions. Thus, Study 3 findings not only corroborate the theoretical model but also validate the theoretical underpinnings of the study hypotheses. That is, if the relationships among the study variables are only based on the sample and methods used, a different set of results would have been expected for Study 3. In addition, the proposed model was once again supported after controlling for subordinates' neuroticism. This was an important variable to take into account because the measure used to assess abusive supervision is based on perceptions and not actual behaviour. Most importantly, Study 3 demonstrates that the relationship between history of family aggression and abusive supervision can occur via the more automatic and unconscious part of social cognitions. This finding is consistent with research on implicit social cognitions

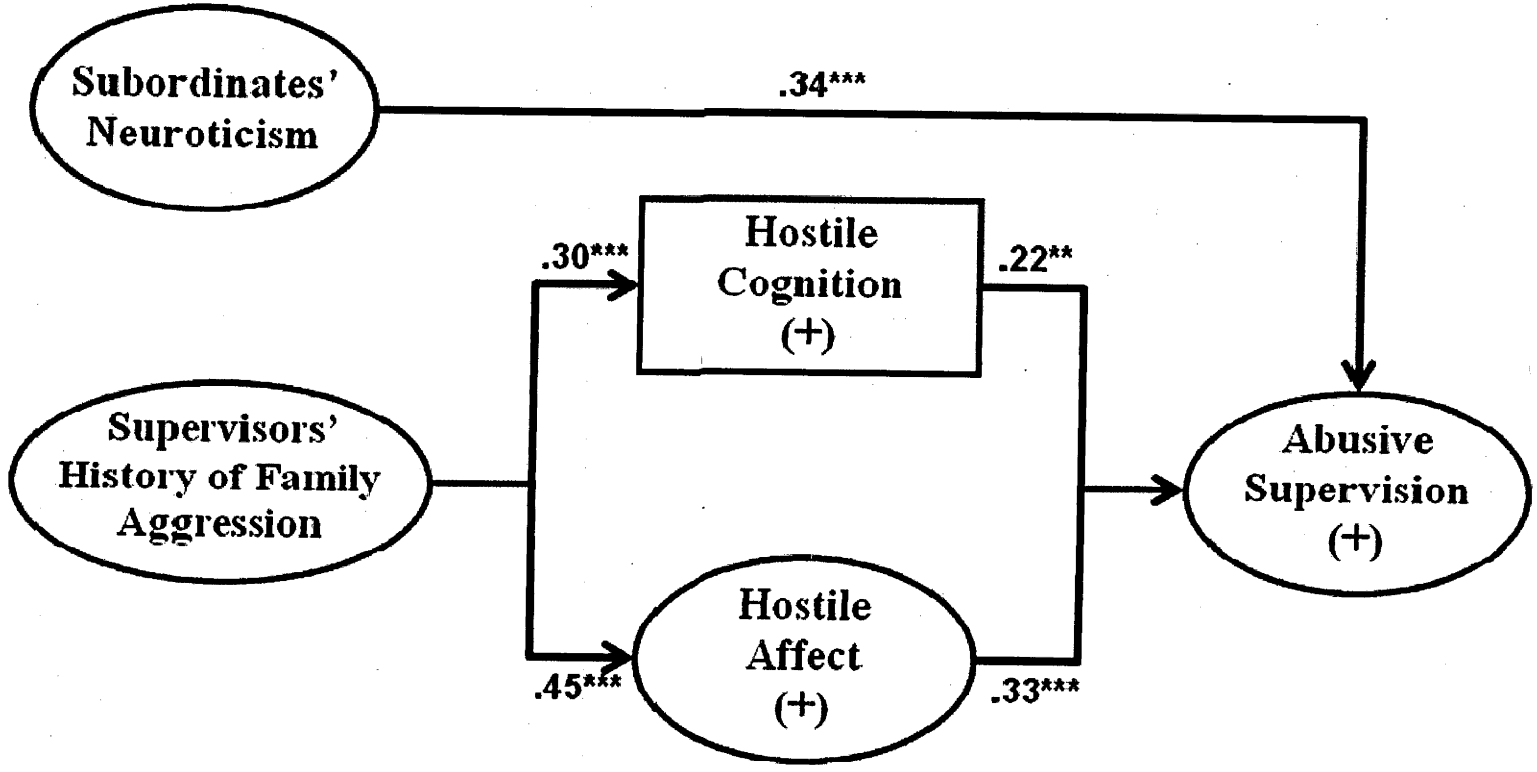


*Figure 12.* Structural model of the mediating role of hostile cognitions and hostile affect in the relationship between supervisors' history of family aggression and subordinates' perceptions of abusive supervision (Study 3). Structural path estimates are standardised parameter estimates. To simplify the presentation, the measurement model has been omitted, and the correlations among the exogenous variables are not shown.

which differentiates between explicit and implicit individual tendencies to engage in aggression (Frost, Ko, & James, 2005; James et al., 2005). Although our measure of hostile affect remained to be based on self-reports, our results showed that its mediating role still holds despite controlling for subordinates' neuroticism. This is worth noting considering that neuroticism involves the frequent experience of negative emotions which includes hostility-related affect (John, 1989; McCrae & John, 1992). Thus, this may mean that hostile affect exerts a unique influence on abusive supervision independent from the influence of personality traits such as neuroticism.

Although subordinates' neuroticism was controlled in the analyses, it is also plausible that factors within the organisation (e.g., supervisor's experience of procedural justice, interactional justice, and psychological contract violation) as well as person factors (i.e., supervisor demographics) may influence the proposed relationships and thus result in alternative explanations for our findings. Indeed, both situational and person factors may serve as triggers of aggressive responding (Douglas et al., 2008; O'Leary-Kelly et al., 1996). This means that in order to strengthen our hypotheses about the role of history of family aggression and the internal states, other factors that have been found to influence abusive supervision should be taken into account.

**Summary**

In summary, the results of Study 3 constructively replicated that of Studies 1 and 2. That is, the mediating role of the two psychological states in the relationship between history of family aggression and abusive supervision was once again supported. Results supported the study hypotheses despite 1) using a different sample of employees, 2) accounting for implicit hostile cognitions, and 3) controlling for the influence of subordinates' neuroticism. Furthermore, the dual activation process (i.e., history of family

aggression traverses via the cognitive and affective routes to influence abusive supervision) was once again supported.

# Chapter 5

## Study 4: The Moderating Role of Angry Rumination in the Mediated Relationship between History of Family Aggression and Abusive Supervision

### Introduction and Hypotheses

The previous studies demonstrated that the relationship between history of family aggression and abusive supervision is mediated by both hostile cognitions and hostile affect. By testing for theoretically plausible alternative models in the analyses, I was able to establish that history of family aggression traverses both the cognitive and affective route. However, in order to provide a more stringent test of the proposed set of relationships, it is important to rule out alternative explanations. One way by which this is accomplished is through the inclusion of control variables (Schmitt & Klimoski, 1991). Indeed, Becker (2005) pointed out that the use of control variables may add to the credibility of statistical results as potential factors that may bias the proposed relationships accounted for. Although this is the case, researchers are cautioned in including a myriad of control variables without any theoretical basis. The inclusion of control variables should be guided by theory in terms of its relevance with the other substantive variables in the model (Gordon, 1968). Thus, the first aim of Study 4 is to test the proposed model while controlling for additional relevant variables that have been reported as significant antecedents of abusive supervision as explained by displaced aggression theory. Specifically, supervisors' justice perceptions (e.g., interactional justice, procedural justice, and psychological contract violation), subordinate neuroticism, and supervisor demographic characteristics were controlled for in the analyses. In line with Becker's (2005) proposal, I provide a brief explanation regarding the inclusion of these variables.

Organisational mistreatment through perceptions of injustice has been noted numerous times as an antecedent of abusive supervision (Aryee et al., 2007; Hoobler & Brass, 2006; Tepper et al., 2006). Supervisors who experienced procedural and interactional injustice (Aryee et al., 2007; Tepper et al., 2006) and psychological contract violation (Hoobler & Brass, 2006) from their organisation were more likely to engage in abusive supervision as perceived by their subordinates. These effects were explained using the displaced aggression framework. Upon experiencing injustice from the organisation, supervisors displace their aggression to safer targets (i.e., subordinates) for fear of engendering further mistreatment. Thus, in this study I include supervisors' perceptions of procedural justice, interactional justice, and psychological contract violation as control variables. Similar to Study 3, I also included subordinates' neuroticism as a control variable.

In addition, I accounted for supervisors' gender, age, and duration of working relationship with the supervisor in the analysis. Evidence suggests that males as opposed to females engage in more direct forms of aggression (Björkqvist, Lagerspetz, & Kaukiainen, 1992). In the context of the study, it is also likely that females as opposed to males may engage in greater abusive supervision because it involves nonphysical and verbal hostility (Tepper, 2000). Age has been found to be positively related to aggression (Tremblay et al., 1999) with older supervisors engaging in greater abusive supervision compared to their younger counterparts (Hoobler & Brass, 2006). Finally, I also included duration of working relationship with the supervisor as there is evidence to suggest that surface demographic similarities (e.g., sex and gender similarity between supervisor and subordinate) diminish over time as individuals learn more about each other (Harrison, Price, & Bell, 1998).

The second aim of the present study is to test the proposed moderated mediation model. Specifically, I hypothesise that angry rumination will act as a first stage moderator strengthening the relationship between history of family aggression and hostile cognitions and hostile affect. This then results in a stronger indirect effect between history of family aggression and abusive supervision (see Figure 13). Later, I elaborate on the theoretical and empirical justifications for these proposed relationships.

According to the General Aggression Model (GAM; Anderson & Bushman, 2002), person factors may interact with situational triggers (i.e., provocation) or prior experiences (i.e., history of family aggression) to increase or decrease the accessibility of hostility-related cognitions and affect. This is thought to occur because of the development of knowledge structures such as scripts, beliefs, memories, and attitudes towards aggression. Thus, similar to Studies 1, 2, and 3, I predict a positive relationship between history of family aggression and the two psychological states:

*Hypothesis 1: History of family aggression will be positively associated with hostile cognitions.*

*Hypothesis 2: History of family aggression will be positively associated with hostile affect.*

As further postulated by the GAM (Anderson & Bushman, 2002), once hostile cognitions and hostile affect are accessible and activated, these influence how the individual interprets the environment. If hostile cognitions are highly accessible, then this influences the kind of inference formed following a social encounter (i.e., hostile appraisal). The same premise also applies to highly accessible hostile affect. Highly accessible hostile cognitions and hostile affect may then result in higher propensities to

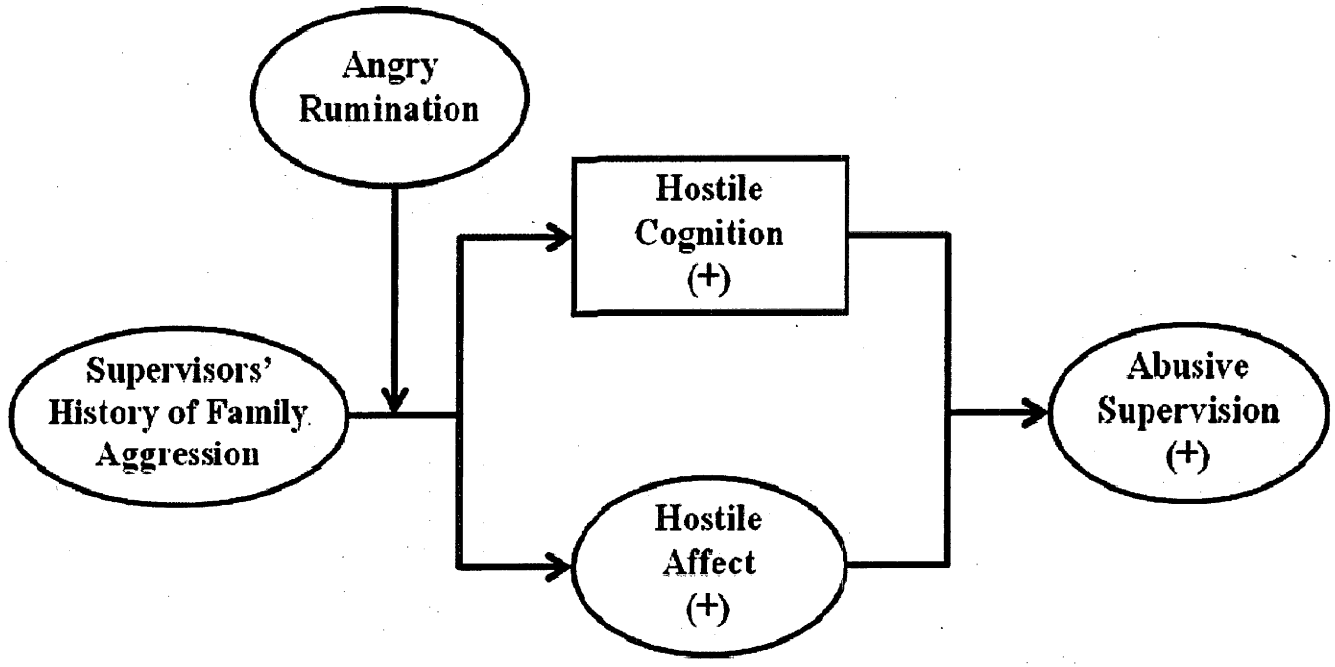


*Figure 13.* The proposed moderated mediation model (Study 4). Both hostile cognitions and hostile affect are predicted to mediate the relationship between supervisors' history of family aggression and subordinates' perceptions of abusive supervision. Angry rumination is expected to moderate this mediated relationship such that the mediated relationship between supervisors' history of family aggression and subordinates' perceptions of abusive supervision will be stronger for those supervisors high in angry rumination as opposed to those with low angry rumination. In this study, hostile cognitions was measured using the word completion task (Anderson, Carnagey, & Eubanks, 2003; Anderson et al., 2004).

engage in aggressive behaviour such as abusive supervision. Thus, similar to studies 1, 2, and 3, I propose the following hypotheses:

*Hypothesis 3: The relationship between history of family aggression and abusive supervision is mediated by hostile cognitions.*

*Hypothesis 4: The relationship between history of family aggression and abusive supervision is mediated by hostile affect.*

Collectively, knowledge structures form an individual's personality. If the person believes aggression is acceptable and has effectively used it to gain positive outcomes, then it is likely to result in a greater predisposition towards aggression. One personality trait that has been identified to influence aggressive behaviour is angry rumination. It involves thinking about and reliving an anger-eliciting event as well as cognitively rehearsing acts of retaliation (Denson et al., 2006; Sukhodolsky et al., 2000). Angry rumination amplifies negative mood by directing attention inward to the self (Lyubomirsky & Nolen-Hoeksema, 1995). That is, angry rumination enables individuals to relive experiences that activate aggressive memories, thoughts, and feelings. This occurs because aggressive concepts and feelings are linked together in memory similar to a semantic network (Berkowitz, 1993). Once an aggressive thought is remembered or recalled, a spreading activation process takes place as thoughts and concepts associated with the previous thoughts are triggered. Similarly, the activation of an aggressive thought can also result in triggering aggression-related emotions such as anger because these emotions are also linked in a semantic network. Thus, angry rumination may exacerbate active hostile cognitions and affect increasing accessibility in memory (Ayduk et al., 2002; Bushman, 2002; Rusting & Nolen-Hoeksema, 1998). Indeed, laboratory manipulations of rumination resulted in increased aggressive cognitions, affect, and arousal (Pedersen et al., 2011). This consequently

results in increased aggression towards the provocateur as well as displaced aggression towards an innocent target (Bushman, 2002; Denson et al., 2006). For example, Bushman (2002) found that relative to individuals who were asked to distract themselves from an anger-provoking incident, those who were asked to ruminate about the incident felt more anger and exhibited increased aggression. Similarly, Denson and colleagues (2006) found that those individuals high in trait displaced rumination (i.e., the tendency to aggress towards a target other than the initial source of the provocation) engage in more aggression towards an innocent target because they ruminated about the provoking incident more relative to those with low trait displaced rumination.

Research has also found that individuals differ in the extent to which they ruminate about current and previous experiences (Borders, Barnwell, Earleywine, 2007; Verona, 2005). Some individuals generally ponder over previous experiences more compared to others which results in experiencing more prolonged negative emotions. For example, Borders and colleagues (2007) found that the relationship between alcohol consumption and aggressive behaviour was moderated by trait rumination. Specifically, those heavy drinkers who are high on trait rumination engaged in more aggressive behaviour compared to those with low trait rumination. Given these theoretical and empirical considerations, I propose a moderated mediation model wherein angry rumination acts as a moderator in the mediated relationship between history of family aggression and abusive supervision. Specifically, I expect angry rumination to strengthen the mediated relationship between history of family aggression and abusive supervision via both hostile cognitions and hostile affect.

*Hypothesis 5: The conditional indirect effect of history of family aggression in predicting abusive supervision through hostile cognitions will be stronger for those individuals who engage in high as opposed to low levels of angry rumination.*

*Hypothesis 6: The conditional indirect effect of history of family aggression in predicting abusive supervision through hostile affect will be stronger for those individuals who engage in high as opposed to low levels of angry rumination.*

## Study 4 - Method

### Participants

The sites for this study were ten call centres in the central business district of Manila, Philippines. Permission to conduct a survey was obtained from the human resource managers of each call centre organisation. The final sample consisted of one hundred ninety nine supervisor-subordinate dyads. The supervisor sample consisted of 57% males with a mean age of 33.26 years. Eighty-four percent have been working in the company for 10 years or less and have supervised their subordinate for an average of 3.18 years. The subordinate sample comprised 54% females. Approximately 80% were in the 19-30 year-old age group and 81% have been working in their respective companies for 5 years or less.

### Procedure

Each site was visited and orientation sessions were held to explain the purpose of the survey and the procedure for survey collection. Surveys were administered to supervisors during their designated/pre-allocated breaks. Similar to the previous studies, supervisors were asked to read the information sheet provided describing the study as well as to sign the informed consent forms (see Appendix for a sample information sheet and consent form). The supervisors were reminded that they can withdraw from the study at

any point in time and that this would not in any way jeopardise their relationship with their respective organisations.

Each supervisor was given the supervisor questionnaire (see Appendix for a sample of the supervisor questionnaire) which contained demographic questions and scales that assessed the focal constructs and control variables. As in previous studies, the supervisors were asked to generate an anonymous code to ensure anonymity and confidentiality of responses. The anonymous code was also used to match both completed supervisor and subordinate questionnaires. Upon completion, supervisors were given a sealed envelope containing the subordinate questionnaire with demographic questions and scales that assessed abusive supervision (see Appendix for sample subordinate questionnaire). The supervisors were asked to give the sealed envelope to a subordinate with whom they interact on a regular basis. An information sheet and consent form was also provided (see Appendix for sample information sheet and consent form). Subordinates were requested to provide information concerning the behaviours of their immediate supervisor. They were reminded that the word "supervisor" referred to the supervisor who gave them the sealed envelope. Subordinates were instructed to place the completed questionnaires in the paid postage envelope provided and to affix their signature across the flap. Thus, completed subordinate questionnaires were sent directly to the researcher to minimise tampering and ensure the integrity of the data.

Out of the five hundred thirty supervisors targeted across the participating call centres, three hundred twenty one supervisors expressed their interest but only two hundred ninety supervisors completed and returned the surveys, for a response rate of 54.72%. Twenty six survey forms with incorrect/missing codes as well as a large number of missing responses were excluded. We also retrieved two hundred thirty six completed

subordinate surveys, for a response rate of 44.53%. Sixteen subordinate surveys were excluded because of incorrect/missing codes and/or a large number of missing responses. Altogether, 199 supervisor-subordinate dyads were matched and comprised the final sample. Similar to previous studies, three research assistants contacted 20% of the participating subordinates. All provided accurate information supporting the integrity of the data.

**Measures**

As in previous studies, questionnaires were prepared in English because this language was spoken by a vast majority of the Filipino population (Bernardo, 2004). The response format for all items, except the demographic variables and hostile cognitions, was a seven point Likert-type scale, with items coded such that a higher score indicated greater amount of the focal construct.

***Supervisors' history of family aggression.*** As in previous studies, history of family aggression was assessed with the Conflict Tactics Scale taken from Straus (1979). In this sample, Cronbach's alpha was .96.

***Hostile cognitions.*** As in Study 3, hostile cognitions was assessed using a word completion task (WCT) developed by Anderson and colleagues (2003, 2004).

***Hostile affect.*** Similar to previous studies, hostile affect was assessed using the State Hostility Scale developed by Anderson and his colleagues (1995). In this sample, Cronbach's alpha was .97.

***Angry rumination.*** Angry rumination was measured using the 10-item Angry Rumination scale developed by Denson et al. (2006). Internal consistency reliability for the angry rumination scale was high ($\alpha = .91$). The scale was found to be positively correlated with the Physical ($r = .39$; $p<.05$) and Verbal ($r = .35$, $p<.05$) Aggression

subscales of the Aggression Questionnaire (Buss & Perry, 1992) which provided preliminary evidence of its concurrent validity.

For this study, respondents were asked to think about their experiences with their respective families while they were growing up and rate the extent to which they ruminate about these experiences. Example items include: "I feel angry about certain things in my life" and "I keep thinking about events that angered me for a long time". In this sample, Cronbach's alpha was .90.

***Abusive supervision.*** Similar to Studies 2 and 3, subordinates' perceptions of abusive supervision were measured using the scale developed by Tepper (2000). In this sample, Cronbach's alpha was .96.

***Control variables.*** Several constructs that have been found as antecedents to abusive supervision were included as control variables. *Interactional justice* was assessed using the 9-item scale developed by Niehoff and Moorman (1993). *Procedural justice* was measured using the six-item scale developed by Niehoff and Moorman (1993). Cronbach's alphas for the interactional justice and procedural justice scales were .95 and .97, respectively. *Psychological contract violation* was assessed using a four-item scale developed by Robinson and Morrison (2000). Cronbach's alpha was .90. *Neuroticism* was assessed using a seven-item semantic differential scale developed by Goldberg (1992) with a Cronbach's alpha for this study of .88. *Supervisor's gender* was dummy coded as 0 = male and 1 = female. Both *supervisor's age* and *duration of working relationship with the supervisor* were assessed in years.

## Results

### Measurement Issues

In order to determine whether there were significant variations across the ten call centres, each of the call centres were compared based on all study variables (including controls). There were no significant differences across call centre sites in terms of supervisors' history of family aggression, $F(9,189) = .37$, *ns*, supervisors' hostile cognitions (i.e., operationalised in terms of WCT scores), $F(9,189) = .79$, *ns* , supervisors' hostile affect, $F(9,189) = .14$, *ns*, supervisors' perception of interactional justice, $F(9, 189) = .34$, *ns*; supervisors' perception of procedural justice, $F(9, 189) = 1.25$, *ns*; supervisors' perception of psychological contract violation, $F(9, 189) = .59$, *ns*; subordinates' neuroticism, $F(9, 189) = .42$, *ns*; and subordinates' perceptions of abusive supervision, $F(9,189) = .24$, *ns*. Intra class coefficients were also calculated to assess whether it was appropriate to analyse the data using multi-level modeling that captures the non-independence of data. The ICC1s were .01 for supervisors' hostile cognitions and supervisors' perceptions of procedural justice; .02 for supervisors' perceptions of psychological contract violation; .03 for supervisors' history of family aggression, supervisors' hostile affect, subordinates' neuroticism, subordinates' perceptions of abusive supervision; and .04 for supervisors' perceptions of interactional justice. These values are well below the cut-off of .30 required for aggregation of individual level constructs to group level (Bliese, 2000; Raudenbush & Bryk, 2002). In sum, these results suggest that nesting within the organisations had no or very little effect on the interrelationships of the study variables.

Descriptive statistics, zero-order correlations, and reliability coefficients are presented in Table 10. Except for age, gender ($r = -.26$, $p<.01$), duration of working relationship with the supervisor ($r = -.15$, $p<.01$), supervisor-reported procedural justice ($r = -.25$, $p<.01$), supervisor-reported interactional justice ($r = -.56$, $p<.01$), supervisor-

Table 10

*Means, standard deviations, and zero order correlations of Study 4 variables*

| Variables | *M* | *SD* | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STUDY 4 (N = 199) | | | | | | | | | | | | | | |
| 1. Supervisors gender | .43 | .50 | | | | | | | | | | | | |
| 2. Supervisor age | 33.26 | 7.34 | .07 | | | | | | | | | | | |
| 3. Procedural justice | 5.27 | 1.38 | -.01 | .15* | (.97) | | | | | | | | | |
| 4. Intereactional justice | 5.50 | 1.45 | .14 | -.05 | .50*** | (.95) | | | | | | | | |
| 5. Psychological contract violation | 2.33 | 1.34 | -.23** | .01 | -.24** | -.32** | (.90) | | | | | | | |
| 6. Duration of working relationship with supervisor | 3.18 | 3.83 | .12 | .40** | .01 | -.03 | .09 | | | | | | | |
| 7. Subordinate neuroticism | 3.16 | 1.11 | -.06 | .13 | .13 | -.37** | .32** | -.01 | (.88) | | | | | |
| 8. Supervisors' history of family aggression | 1.39 | 1.34 | -.20** | -.09 | -.08 | -.14 | .33** | -.09 | .20** | (.96) | | | | |
| 9. Supervisors' angry rumination | 3.00 | 1.50 | -.09 | -.07 | -.16* | -.17* | .49** | .02 | .34** | .41** | (.90) | | | |
| 10. Hostile cognitions (WCT) | .19 | .08 | -.08 | -.04 | -.07 | -.35** | .17* | -.10 | .26** | .32** | .31** | | | |
| 11. Hostile affect | 2.37 | 1.30 | -.09 | -.04 | -.19** | -.31** | .36** | -.07 | .35** | .67** | .46** | .38** | (.97) | |
| 12. Subordinates' perceptions of abusive supervision | 2.09 | 1.20 | -.26** | -.02 | -.25** | .56** | .34** | -.15* | .47** | .35** | .34** | .49** | .52** | (.96) |

*Note:* * $p < .05$. ** $p < .01$. *** $p < .001$.

reported psychological contract violation ($r$ = .34, $p$<.01), and subordinates' neuroticism ($r$ = .47, $p$<.01) were significantly correlated with subordinates' perceptions of abusive supervision. Thus, these variables were controlled for in subsequent analyses.

**Data Analytic Technique**

To test the hypotheses, hierarchical multiple regression was used as the analytic technique. Although it would have been ideal to use structural equation modeling (SEM) similar to the previous studies, there was a substantive decrease in statistical power due to the increase of the ratio between the number of variables in the study (i.e., including additional control variables) and sample size (Williams et al., 2009). Sample size for this study was smaller relative to the number of parameters to be estimated which tantamount to inadequate power required in SEM analysis. Thus, a large sample size is needed relative to the number of parameters to be estimated for sufficient information to detect relationships between constructs (Tanaka, 1987).

**Discriminant Validity of the Study Variables**

However, it was still possible to conduct a confirmatory factor analysis using SEM to assess the discriminant validity of the study variables. Similar to the previous studies, item parcels were created in order to improve the ratio of N relative to the number of parameters to be estimated (Little et al., 2002). Items were combined into parcels using the factorial algorithm approach wherein items with the highest and lowest factor loadings are combined first followed by the next highest and lowest loadings. The three-factor model had a good fit with the observed data, $\chi^2$ (82, N=199) = 231.09, $p$<.001, $\chi^2$/df = 2.82, CFI = .96, TLI = .96, SRMR = .04, RMSEA = .10 (CI 90%: .080 - .110). The standardised path estimates of the manifest indicators ranged from .79 to .98 and were all statistically significant at $p$<.001 (see Table 11).

Table 11

*Standardised Path Coefficients from Study 4 Measurement Model*

| Item | Path Coefficient |
|---|---|
| Supervisor Ratings of Observed Interparental Aggression | |
| A. Parcel 1 | .98 |
| • One of my parents argued heatedly with the other but short of yelling | |
| • One of my parents threw something at the other | |
| • One of my parents hit (or tried to hit) the other but not with something | |
| B. Parcel 2 | .95 |
| • One of my parents sulked and/or refused to talk about it | |
| • One of my parents pushed, grabbed, or shoved the other | |
| • One of my parents hit (or tried to hit) the other with something hard | |
| C. Parcel 3 | .93 |
| • One of my parents hit insulted the other | |
| • One of my parents threw something (but not towards the other) or smashed something | |
| • One of my parents threatened to hit or throw something towards the other | |
| D. Parcel 4 | .79 |
| • One of my parents yelled at the other | |
| • One of my parents stomped out of the room | |
| Hostile Affect | |
| A. Parcel 1 | .92 |
| • I feel like I'm about to explode | |
| • I feel mad | |
| • I feel cruel | |
| B. Parcel 2 | .92 |
| • I feel angry | |
| • I feel offended | |
| • I feel like swearing | |

Table 11 Continued

*Standardised Path Coefficients of Study 4 Measurement Model*

| Item | Path Coefficient |
|---|---|
| C. Parcel 3<br>• I feel stormy<br>• I feel outraged<br>• I feel burned up | .93 |
| D. Parcel 4<br>• I feel furious<br>• I feel aggravated<br>• I feel discontented | .92 |
| E. Parcel 5<br>• I feel mean<br>• I feel bitter<br>• I feel disagreeable | .94 |
| F. Parcel 6<br>• I feel like banging on a table<br>• I feel irritated<br>• I feel like yelling at somebody<br>• I feel enraged | .96 |
| <u>Abusive Supervision</u><br>A. Parcel 1<br>• Reminds me of my past mistakes and failures<br>• Blames me to save himself/herself embarrassment<br>• Ridicules me | .88 |

Table 11 Continued

*Standardised Path Coefficients of Study 4 Measurement Model*

| Item | Path Coefficient |
|---|---|
| B. Parcel 2 | .97 |
| • Tells me my thoughts or feelings are stupid | |
| • Doesn't give credit for job requiring a lot of effort | |
| • Expresses angry at me when he/she is mad for another reason | |
| C. Parcel 3 | .95 |
| • Makes negative comments about me to others | |
| • Breaks promises he/she makes | |
| • Tells me I'm incompetent | |
| D. Parcel 4 | .82 |
| • Gives me the silent treatment | |
| • Does not allow me to interact with my co-workers | |
| • Is rude to me | |
| E. Parcel 5 | .94 |
| • Puts me down in front of others | |
| • Invades my privacy | |
| • Lies to me | |

*Note*. N = 199. All loadings are standardised.

Similar to previous studies, the final measurement model was also compared with several alternative models. Model 1 incorporated all three constructs into one factor, $\chi^2$ (85, N=199) = 266.99, $p$<.001, $\chi^2$/df = 3.13, CFI = .96, TLI = .95, SRMR = .10, RMSEA = .10 (CI 90%: .090 - .118). Model 2 combined measures based on source; thus, supervisor measures were combined (history of family aggression and hostile affect) into Factor 1 and subordinates' perceptions of abusive supervision into Factor 2, $\chi^2$ (84, N=191) = 237.32, $p$<.001, $\chi^2$/df = 2.83, CFI = .97, TLI = .96, SRMR = .07, RMSEA = .10 (CI 90%: .082 - .111), (Model 1 Vs. Model 2, $\chi^2$diff(1) = 29.67, $p$<.001). Results of the chi-square difference test between the measurement model (three factor model) and the best fitting two-factor model (Model 3) suggested that the former had the best fit $\chi^2$diff(1) = 6.23, $p$<.05. As with Study 3, hostile cognitions was not included in the measurement model because it represents a manifest indicator (i.e., single score).

**Mediation Analysis**

The three step procedure outlined by Baron and Kenny (1986) in examining mediation effects was used and succeeding analyses were complemented with the multiple mediator test proposed by Preacher and Hayes (2008). The first condition for mediation was supported by a positive relationship between supervisors' history of family aggression and each of the mediators namely hostile cognitions ($\beta$ = .28, $p$<.001) and hostile affect ($\beta$ = .61, $p$<.001). The second condition for mediation was also supported by a positive relationship between supervisors' history of family aggression and subordinates' perceptions of abusive supervision ($\beta$ = .22, $p$<.001). It is important to note that the supervisors' history of family aggression predicted subordinates' perceptions of abusive supervision over and above the effects of supervisors' perceptions of interactional justice, supervisors' perceptions of procedural justice, supervisors' perceptions of psychological

contract violation, supervisors' neuroticism, duration of working relationship with the supervisor, supervisors' gender and age, $\Delta R^2$=.08, $F(2, 172) = 23.18$. The third condition for mediation required that the effect of supervisors' history of family aggression on subordinates' perceptions of abusive supervision should substantially reduce upon the inclusion of hostile cognitions and hostile affect in the equation, while both mediators exerting a significant effect. The third condition was also met as the beta coefficient between supervisors' history of family aggression and subordinates' perceptions of abusive supervision significantly decreased from .22 to -.01 when both hostile cognitions and hostile affect were entered into the regression equation (see Table 12).

**Testing for the Indirect Effects of the Two Mediators**

Similar to Studies 2 and 3, the significance of the indirect effects of the two mediators was assessed using Preacher and Hayes's (2008) bootstrapping technique. The total indirect effect of supervisors' history of family aggression through both hostile cognitions and affect was significant, with a point estimate of .20 and a 95% bootstrap confidence interval ranging from .12 to .31. Examination of the specific indirect effects revealed that hostile cognitions was a significant mediator (with a point estimate of .05 and a 95% bootstrap confidence interval ranging between .02 to .10) as was hostile affect (with a point estimate of .15 and a 95% bootstrap confidence interval ranging between .06 to .25). Overall, Hypotheses 1 to 4 were all supported (see Figure 14).

**Tests of Moderated Mediation**

It is further predicted that the strength of the indirect (mediation) effect between supervisors' history of family aggression and subordinates' perceptions of abusive supervision via hostile cognitions (Hypothesis 5) and hostile affect (Hypothesis 6) is conditional on the value of the proposed moderator supervisors' angry rumination.

Table 12

*Hierarchical Regression Analysis for the Mediating Role of Hostile Cognition and Hostile Affect*

| Study variables | Abusive Supervision | | |
|---|---|---|---|
| | Model 1: Controls only | Model 2: Main effect | Model 3: Mediators |
| *Control variables* | | | |
| Supervisor gender[a] | -.15* | -.13* | -.16** |
| Supervisor age | -.00 | .02 | .02 |
| Procedural justice | .04 | .02 | .02 |
| Interactional justice | -.41*** | -.39*** | -.29*** |
| Psychological contract violation | .13* | .08 | .06 |
| Duration of working relationship with supervisor | -.15* | -.14* | -.11 |
| Subordinate neuroticism | .27*** | .25*** | .19** |
| *Main effect* | | | |
| History of family aggression | | .22*** | -.01 |
| *Mediators* | | | |
| Hostile cognitions | | | .27*** |
| Hostile affect | | | .20** |
| F | 20.56*** | 21.08*** | 23.18*** |
| Adjusted $R^2$ | .43*** | .47*** | .55*** |
| $\Delta R^2$ | | .04*** | .08*** |

Note: $N = 199$, *$p<.05$, **$p<.01$, ***$p<.001$
[a] 0 = male, 1 = female

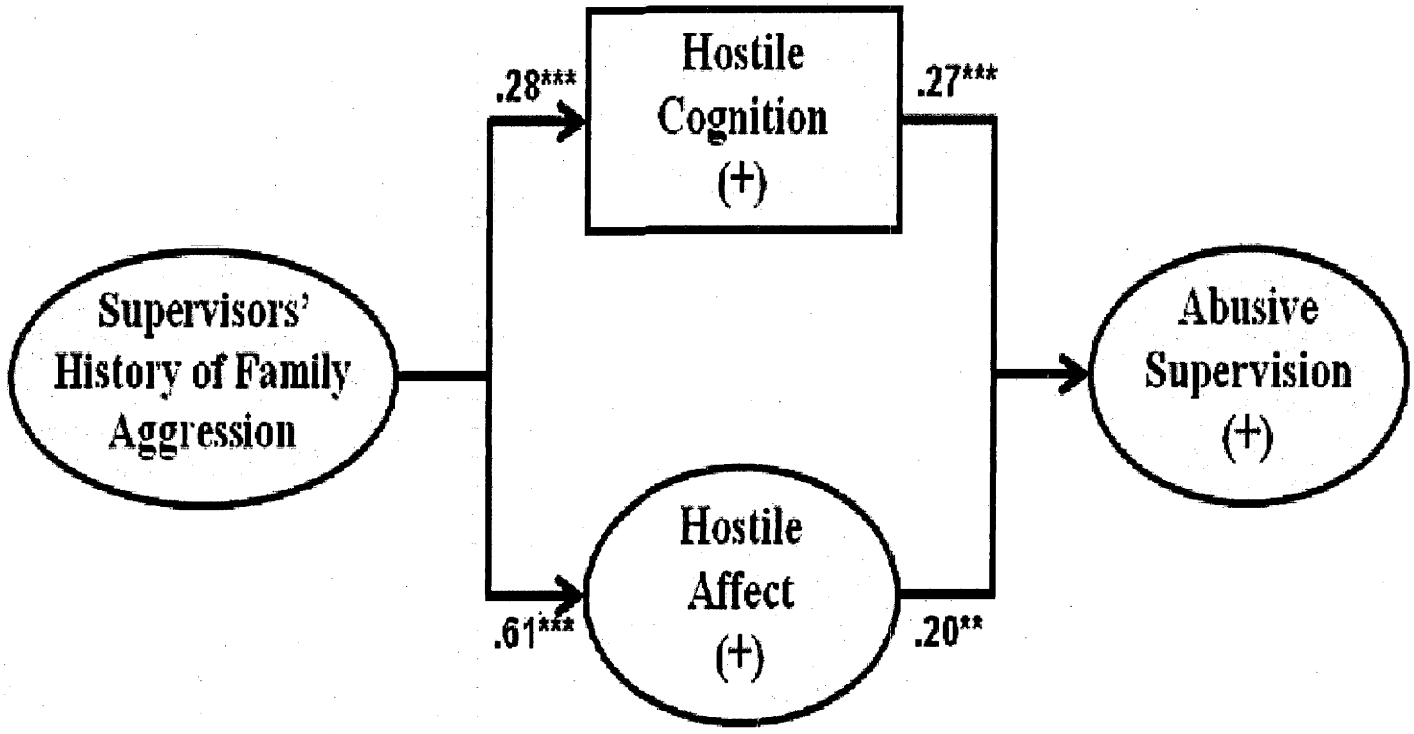


*Figure 14.* Regression model for Study 4 with regression weights after controlling for supervisors' experience of psychological contract violation, procedural justice, interactional justice, subordinates' neuroticism, supervisors' gender, and duration of working relationship with the supervisor.

Specifically, it is expected that supervisors' angry rumination will act as a first stage moderator, moderating the path between supervisors' history of family aggression and the two psychological states. The SPSS macro designed by Preacher, Rucker, and Hayes (2007) was utilised to test the moderated mediation hypotheses. This macro was used as it allows researchers to implement bootstrapping methods and probe the significance of conditional indirect effects at different values of the moderator.

Following Preacher and colleagues' (2007) approach, the conditional indirect effect of supervisors' history of family aggression on subordinates' perceptions of abusive supervision were examined at high and low levels of supervisors' angry rumination operationalised as one standard deviation above and below the mean. The interaction term between supervisors' history of family aggression and supervisors' angry rumination is expected to be significant as supervisors' angry rumination is proposed to act as a first stage moderator.

With regard to Hypothesis 5, results indicated that the cross-product term between supervisors' history of family aggression and supervisors' angry rumination was not significant ($\beta$ = .00, *n.s.*). Further examining the conditional indirect effect at specific values of supervisors' angry rumination revealed that the indirect effect of supervisors' history of family aggression on subordinates' abusive supervision via hostile cognitions was not significantly stronger in the high angry rumination condition (*indirect effect* = .04, SE = .02, z = 1.79, 95% CI: .00 - .09). Similarly, the hypothesised indirect effect was not significantly weaker in the low angry rumination condition (*indirect effect* = .03, SE = .03, z = 1.29, 95% CI: -.00 - .09). Overall, Hypothesis 5 was not supported (see Table 13).

For Hypothesis 6, results revealed that the cross-product term between supervisors' history of family aggression and supervisors' angry rumination was significant ($\beta$ = .14,

$p<.001$). Further examining the conditional indirect effect at specific values of supervisors' angry rumination indicated that the indirect effect of supervisors' history of family aggression on subordinates' abusive supervision via hostile affect was significantly stronger in the high angry rumination condition (*indirect effect* = .16, SE = .05, z = 2.96, 95% CI: .05 to .30). Likewise, the indirect effect of supervisors' history of family aggression on subordinates' abusive supervision was significantly weaker in the low angry rumination condition (indirect effect = .05 SE = .03, z = 1.96, 95% CI: .02 - .13). Overall, Hypothesis 6 was supported (see Table 13).

Simple slopes analyses were conducted to further examine the nature of the significant interaction term between supervisors' history of family aggression and supervisors' angry rumination in predicting hostile affect. Results revealed that at high levels of angry rumination, there was a stronger positive relationship between supervisors' history of family aggression and hostile affect, $t(199) = 3.08$, $p<.01$. In contrast, at low levels of angry rumination, there was a weaker positive relationship between supervisors' history of family aggression and hostile affect $t(199) = 8.49$, $p<.001$ (see Figure 15).

## General Discussion

Results in this study corroborated that of the previous studies and supported the proposed mediated relationship between history of family aggression and abusive supervision. That is, history of family aggression was found to be positively related to both hostile cognitions and hostile affect. Furthermore, hostile cognitions and hostile affect both mediated the relationship between history of family aggression and abusive supervision. These results lend support to the Social Learning Theory (Bandura, 1973) in general and the General Aggression Model (GAM; Anderson & Bushman, 2002) in particular. As with previous studies, the results also support a dual activation process

Table 13

*Summary of Conditional Indirect Effects at Low and High Levels of Angry Rumination in Study 4*

| Study 4 | IE | SE | Z | CI |
|---|---|---|---|---|
| Simple paths for low angry rumination (hostile affect) | .05 | .03 | 1.96 | .02 to .13 |
| Simple paths for high angry rumination (hostile affect) | .16 | .05 | 2.96 | .05 to .30 |
| Simple paths for low angry rumination (hostile cognitions) | .03 | .03 | 1.29 | -.00 to .09 |
| Simple paths for high angry rumination (hostile cognitions) | .04 | .02 | 1.79 | .00 to .09 |

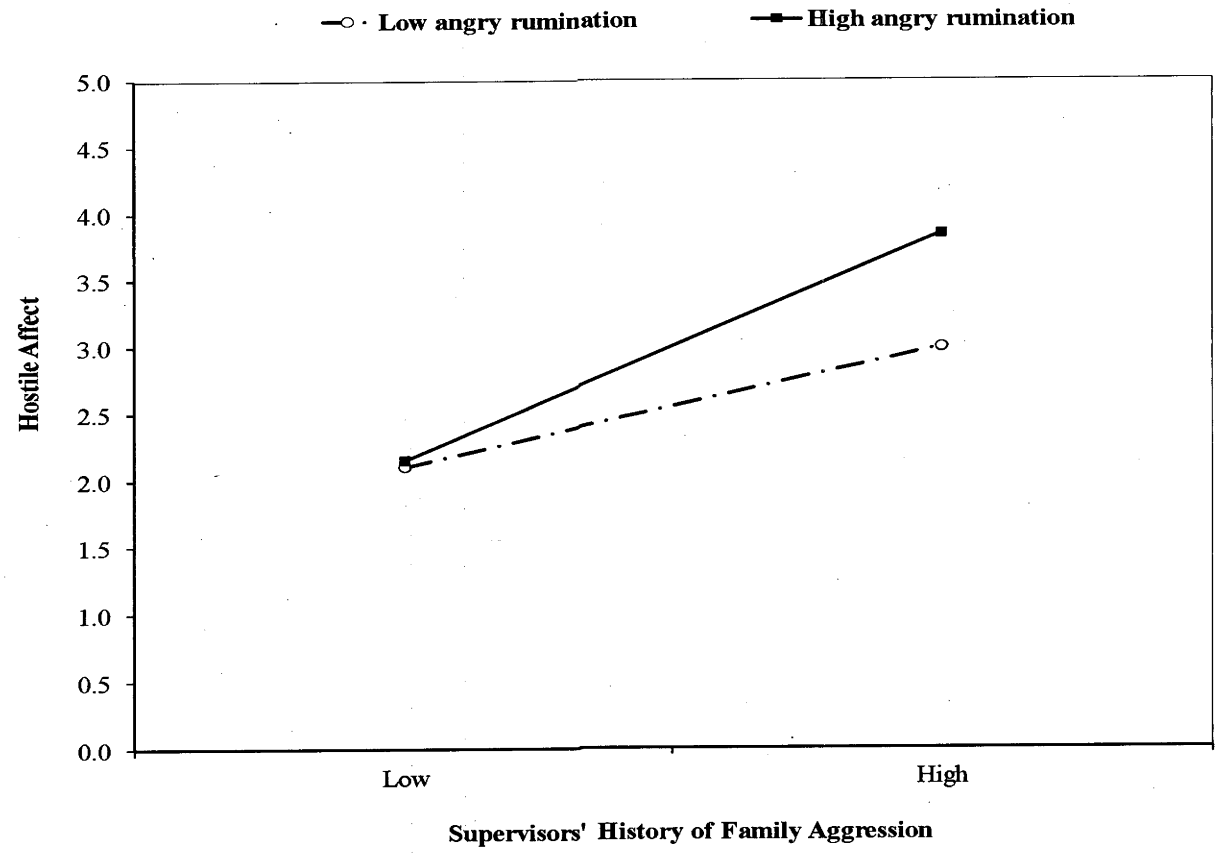


*Figure 15.* The interaction between supervisors' history of family aggression and angry rumination in predicting hostile affect.

wherein both hostile cognitions and hostile affect are highly accessible due to exposure to a hostile family environment. However, this does not mean that hostile cognitions and hostile affect are not related. The results simply suggest that a dual activation process better explains how history of family aggression exerts its influence on abusive supervision as compared to a primarily cognitive or affective route.

An important aim of this study was to test the proposed relationships while accounting for previously established antecedents of abusive supervision. Indeed, the mediation hypotheses were supported even after controlling for interactional justice, procedural justice, psychological contract violation, subordinates' neuroticism, and supervisor demographic variables. This rules out alternative explanations for the study's findings and bolsters the validity of the proposed theoretical model. More importantly, it suggests that history of family aggression contributes a unique amount of variance in explaining abusive supervision. Indeed, this is in support of calls for giving more importance to the role of dispositions and individual differences in explaining aggressive behaviours in the workplace (Douglas & Martinko, 2001; House, Shane, & Herold, 1996).

This study also provided preliminary evidence on the moderating role of angry rumination in the relationship between history of family aggression and abusive supervision. It was proposed that high levels of angry rumination would strengthen the proposed indirect relationship between history of family aggression and abusive supervision via the two psychological states. However, angry rumination only moderated the mediated relationship via hostile affect but not via hostile cognitions. There are two plausible explanations for these findings. First, rumination may involve two types of ruminative responses (Denson et al., 2006; Pedersen et al., 2011). Provocation-focused rumination occurs when attention is directed at the provoking incident. In contrast, self-

focused rumination occurs when attention is directed inward or towards one's own negative emotions (Pedersen et al., 2011). Recently, Pedersen and colleagues (2011) found that provocation-focused rumination was more related to the accessibility of aggressive action cognition (i.e., hostile cognitions as compared to self-focused rumination). The authors also used a word completion task to measure hostile cognitions similar to the WCT used in the present study. It is possible that supervisors' use more self-focused rumination than provocation-focused rumination when they think about their experiences of family aggression. Individuals who observed their parents fight may ruminate about it but this does not mean they would want to retaliate towards the source of the mistreatment (e.g., their parents). For one, children hold their parents in high regard, which is why they model their behaviours (Bandura, 1973). Thus, it is unlikely for a child to retaliate towards someone who is considered an authority figure and as someone who provides care and support. Moreover, it should be noted that history of family aggression was operationalised as observed inter-parental aggression. This means that the aggressive behaviour was not directed towards the child (i.e., the supervisor). Thus, it is possible that they tend to engage in self-focused rumination more (e.g., emotions they felt while observing the incident) rather than provocation-focused rumination (e.g., thoughts of retaliation towards the provocateur). Second, supervisors' history of family aggression and hostile affect were both assessed using explicit measures while hostile cognitions were assessed using an implicit measure. Thus, it is possible that the non-significant interaction was due to the differences in the manner the variables were measured.

The present study has limitations that are worth noting. First, although asking supervisors to report their own experience of family aggression captures their interpretation of the experience, it may also be problematic. For example, as the CTS was

based on retrospective accounts, it might be susceptible to response distortion and memory recall problems (Henry et al., 1994). Second, because both history of family aggression and hostile cognition originated from the same source (i.e., supervisors), the significant interaction may have been influenced by common method variance (Podsakoff & Organ, 1986).

**Summary**

Overall, Study 4 replicated the results of the previous studies and strengthened evidence that supports the hypothesised model. Specifically, most of the predictions are supported (with the exception of Hypothesis 5), even after controlling for theoretically-based control variables that have been found to influence abusive supervision. Furthermore, it provided preliminary evidence on the moderating role of angry rumination as it strengthened the mediating role of hostile affect in the relationship between history of family aggression and abusive supervision.

# Chapter 6

## Study 5: The Moderating Role of Angry Rumination in the Relationship Between History of Family Aggression and Abusive Supervision: A Replication Using Parent-supervisor-subordinate Triads

### Introduction and Hypotheses

One limitation associated with the methods that have been used in Studies 2 to 4 is its reliance on retrospective data. Specifically, history of family aggression was measured by asking supervisors to recall their childhood and rate the extent to which they observed their parents aggress towards each other. This is a methodological concern because retrospective accounts may be influenced by response distortion and memory recall problems (Hardt & Rutter, 2004; Henry et al., 1994). For example, individuals may not accurately remember what had happened in the past or they may reconstruct their previous experiences to suit their current needs or situation (Squire, 1989). Indeed, a study by Widom and Shepard (1996) reported that only 60% of 110 participants with documented cases of sexual abuse during childhood reported such abuse twenty years later. Thus, the main aim of Study 5 is to replicate the results of the previous studies while addressing the limitations inherent in the use of retrospective data (see Figure 16).

In order to strengthen the validity of the study findings, additional data were collected to constructively replicate results from Study 4. Specifically, Study 5 builds on Study 4 by testing the proposed relationships using different sample and obtaining parent ratings of history of family aggression. That is, supervisors' parents were requested to rate the extent to which the focal supervisor (i.e., their child) has observed them aggress towards each other in the past. Although parent ratings are also retrospective in nature, the

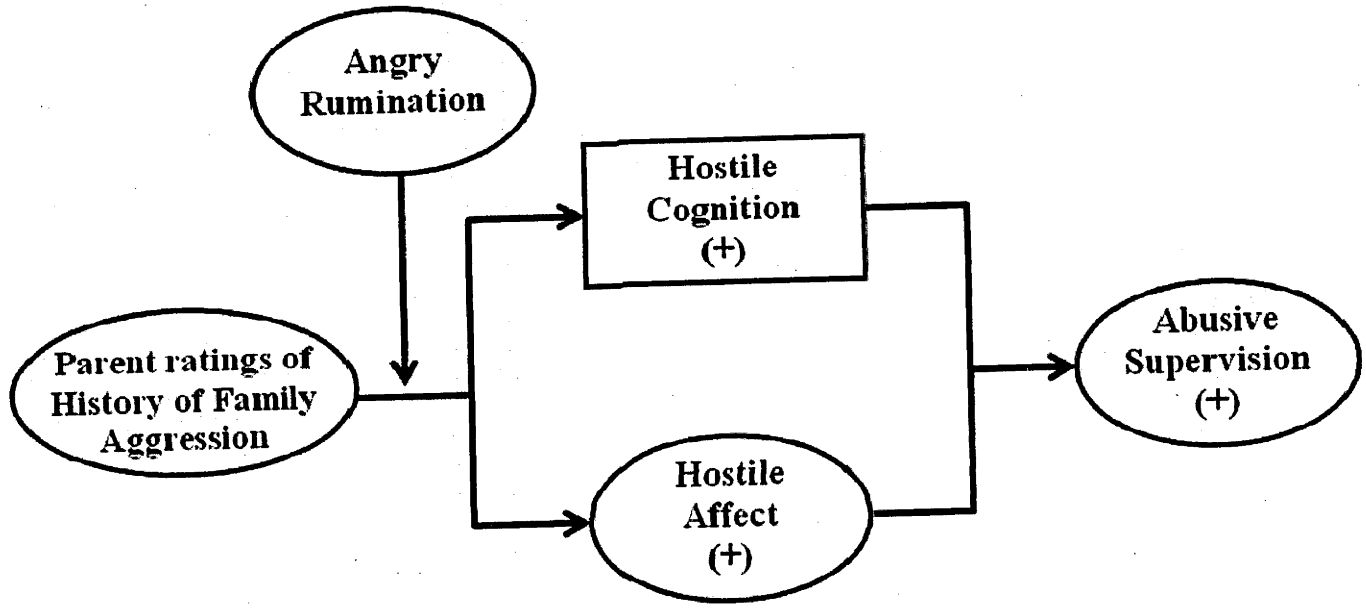


*Figure 16.* The proposed moderated mediation model (Study 5). Both hostile cognitions and hostile affect are predicted to mediate the relationship between parent ratings of history of family aggression and subordinates' perceptions of abusive supervision. Angry rumination is expected to moderate this mediated relationship such that the mediated relationship between parent ratings of history of family aggression and subordinates' perceptions of abusive supervision will be stronger for those supervisors high in angry rumination as opposed to those with low angry rumination. In this study, hostile cognitions was measured using the word completion task (Anderson, Carnagey, & Eubanks, 2003; Anderson et al., 2004).

risks associated with such reports are minimised as parents may be able to recall events in the past that the child may not necessarily be aware of. Indeed, several studies have used parent reports to corroborate self-reports of adverse childhood experiences (Hardt & Rutter, 2004; Jouriles, Mehta, McDonald, & Francis, 1997). Sibling ratings were also used to validate self-reports of childhood experiences (Bifulco, Brown, Lillie, & Jarvis, 1997). However, it is expected that parents are more aware of the extent to which their child observed inter-parental aggression than siblings since they were either the victim or perpetrators of the act. Thus, sibling ratings are dependent on the extent they also observed or were exposed to inter-parental aggression. Given these, data were collected from three data sources – parents of supervisors, supervisors, and subordinates. Although parent ratings were also used in Study 1, the analysis was only confined in examining the relationship between history of family aggression and the two psychological states. On the other hand, Study 5 uses triadic data to test the entire proposed theoretical model in the organisational context (i.e., abusive supervision). Along similar lines, a three month time lag (two measurement periods) was incorporated in assessing the study variables. This was done to further alleviate problems associated with common method variance such as the consistency motif (i.e., respondents having lay theories of how the different items in the survey are interrelated). Furthermore, separating the time when the supervisor and subordinate questionnaires were administered assures that subordinates' ratings are free from any form of influence or coercion (e.g., from supervisors).

As with Studies 1 to 4, a positive relationship between history of family aggression and hostile cognitions and hostile affect is predicted. Based on GAM theory (Anderson & Bushman, 2002), repeated exposure to aggressive environments can lead to the chronic accessibility of hostile thoughts and emotions as it gets encoded in memory.

*Hypothesis 1: History of family aggression will be positively associated with hostile cognitions.*

*Hypothesis 2: History of family aggression will be positively associated with hostile affect.*

Once hostile cognitions and affect become highly accessible and activated, this influences how individuals interpret the environment. Cues that would validate activated hostile thoughts and feelings will be focused on and interpretations that favour aggression as a plan of action will be preferred. This in turn increases the likelihood for aggression to take place. Thus, those supervisors who were repeatedly exposed to family aggression would tend to have highly accessible and activated hostile cognitions and affect. This in turn makes them susceptible in abusing their subordinates. Thus, similar to Studies 2 to 4, the following hypotheses are proposed:

*Hypothesis 3: The relationship between history of family aggression and abusive supervision is mediated by hostile cognitions.*

*Hypothesis 4: The relationship between history of family aggression and abusive supervision is mediated by hostile affect.*

As with Study 4, angry rumination is expected to moderate the strength of the mediated relationship among history of family aggression, psychological states and abusive supervision. In line with GAM theory (Anderson & Bushman, 2002), person factors may serve as triggers that influence one or both of the psychological states. Specifically, angry rumination further increases the accessibility of hostile thoughts and emotions as ruminating about incidents of family aggression in the past strengthens the association between encoded aggression-related concepts in memory and amplifies the emotions felt during the encounter. Thus, similar to Study 4, it is hypothesised that:

*Hypothesis 5: The conditional indirect effect of history of family aggression in predicting abusive supervision through hostile cognitions will be stronger for those individuals who engage in high as opposed to low levels of angry rumination.*

*Hypothesis 6: The conditional indirect effect of history of family aggression in predicting abusive supervision through hostile affect will be stronger for those individuals who engage in high as opposed to low levels of angry rumination.*

## Study 5 - Method

### Participants and Procedure

Participants were recruited from four customer service organisations, which include two call centres and two retail service organisations in the business districts of the Philippines. In consultation with the HR division of each participating organisation, a list of supervisors with key responsibilities in managing work units and supervising employees were obtained. These supervisors were contacted via email to invite them to participate in a leadership survey. Out of the 277 invitations that were sent, 236 supervisors responded indicating their interest to participate in the study. At Time 1, supervisors were asked to read the information sheet provided describing the study as well as to sign the informed consent forms (see Appendix for a sample information sheet and consent form). The supervisors were reminded that they can withdraw from the study at any point in time and that this would not in any way jeopardise their performance in their respective organisations. Each supervisor was given the supervisor questionnaire (see Appendix for a sample of the supervisor questionnaire) which contained demographic questions and scales that assessed supervisor demographics, hostile rumination, hostile affect, and the control variables (e.g., procedural justice, interactional justice, and psychological contract violation). The word completion task assessing hostile cognitions was administered to

supervisors in groups of five. As with the previous studies, supervisors were asked to generate an anonymous code to ensure anonymity and confidentiality of responses. The anonymous code was also used to match completed parent, supervisor, and subordinate questionnaires. Upon completion of the supervisor questionnaire, supervisors were given a sealed envelope containing the parent questionnaire (see Appendix for a sample of the parent questionnaires). The supervisors were requested to give the envelope with the word "parent" written on it to one of their parents. An information sheet and consent form was also included (see Appendix for sample information sheet and consent form). In the parent questionnaire, parents were requested to provide information concerning the focal supervisors' history of family aggression (i.e., the extent to which the supervisor observed their parents engage in aggressive tactics towards each other before the age of 18). They were reminded that the word "child" referred to the focal supervisor who gave them the sealed envelope. The parents were instructed to place the completed questionnaires in the paid postage envelope provided and to affix their signature across the flap. Thus, completed parent questionnaires were sent directly to the researcher to minimise tampering and ensure the integrity of the data.

At Time 2, three months after Time 1 data collection, one of the subordinates who directly reported to the supervisor who completed the supervisor questionnaire was surveyed. Selection of the subordinate was identified by the respective HR division of the participating organisations as someone who reports directly with the focal supervisor on a work-related basis. For supervisors who were supervising more than one employee, the HR division randomly selected a subordinate to participate in the Time 2 survey. The subordinates were asked to provide information concerning the behaviours of their immediate supervisor. They were reminded that the word "supervisor" referred to the

supervisor who gave them the sealed envelope. The subordinates were instructed to place the completed questionnaires in the paid postage envelope provided and to affix their signature across the flap. Thus, completed subordinate questionnaires were sent directly to the researcher to minimise tampering and ensure the integrity of the data (see Appendix for a sample of the subordinate questionnaire).

Out of the 236 surveys distributed to supervisors' parents, supervisors, and their subordinates, 143 parent surveys, 169 supervisor surveys, and 155 subordinate surveys were retrieved yielding a response rate of 60.59%, 71.61%, and 65.67%, respectively. Nine parent surveys, 35 supervisor surveys, and 21 subordinate surveys were disregarded because of a) wrong or missing anonymous codes, or b) a large number of missing responses (75% of the questions were not answered). Altogether, 134 parent-supervisor-subordinate questionnaires were matched and comprised the final sample. As an additional check, three research assistants randomly contacted 20% of the participating parents and subordinates using the optional email/cell phone information that were included in the questionnaires. Questions were asked regarding the nature of the questions and length of the survey to determine whether the parent or subordinate actually completed the survey. All parent and subordinate participants provided accurate information supporting the integrity of the data.

The supervisor sample consisted of 60% male; with a mean age of 31.05 years. Sixty-six percent of the supervisors have been working in their respective companies for 1-5 years. They had supervised their respective subordinates for an average of 2.64 years. The subordinate sample comprised of 54% females. Approximately, 79% were in the 21-30 years old age group and 83% have been working in their respective companies for 5

years or less. The parent sample consisted of 55% fathers with an average age of 55.56 years.

**Measures**

As in previous studies, questionnaires were prepared in English because this language was spoken by a vast majority of the Filipino population (Bernardo, 2004). The response format for all items, except the demographic variables and hostile cognitions, was a seven point Likert-type scale, with items coded such that a higher score indicated greater amount of the focal construct.

***Parent ratings of history of family aggression.*** Similar to Study 1, parents in this study were instructed to recall their child's "worst" year in the family, that is, the time when the parent fought with his/her spouse the most and indicate the frequency (1 = never to 7 = always) by which the child witnessed the parent use aggressive tactics toward his/her spouse during that year. Specifically, parents were reminded that the word "child" referred to the focal employee (i.e., the person who gave them the sealed envelope) and that they should rate the extent to which they exhibited the behaviours listed in front of the child. Example items include: "I yelled at my spouse" and "I threw something at my spouse". In this sample, Cronbach's alpha was .93.

***Hostile cognitions.*** Similar to Studies 3 and 4, hostile cognitions was assessed using a word completion task (WCT) developed by Anderson and colleagues (2003, 2004). The WCT taps into the accessibility of aggressive thoughts by asking participants to fill in missing letters from 98 word fragments. Half of the items can be completed to form either aggressive or non-aggressive words. For instance, one item "expl_e" may be completed as "explore" or "explode." Participants were each allocated three minutes to complete as many words as they can. An accessibility of aggressive thoughts score was calculated by

dividing the number of aggressive word completions by the total number of word completions.

***Hostile affect.*** As with Studies 1 to 4, hostile affect was assessed using the State Hostility Scale developed by Anderson and colleagues (1995). In this study, the scale yielded a Cronbach's alpha of .97.

***Angry rumination.*** As with Study 4, angry rumination was measured using the Angry Rumination subscale of the Displaced Aggression Questionnaire developed by Denson and colleagues (2006). For this study, the scale yielded a Cronbach's alpha of .95.

***Subordinates' perceptions of abusive supervision.*** As with Studies 2-4, subordinates' perceptions of abusive supervision were measured using the scale developed by Tepper (2000). For this study, the scale yielded a Cronbach's alpha of .96.

***Control variables.*** Similar to Study 4, several constructs that have been found as antecedents to abusive supervision were included as control variables. *Interactional justice* was assessed using the nine-item scale developed by Niehoff and Moorman (1993). *Procedural justice* was measured using the six-item scale developed by Niehoff and Moorman (1993). Cronbach's alphas for the interactional justice and procedural justice scales for this study were .98 and .96, respectively. *Psychological contract violation* was assessed using a four-item scale developed by Robinson and Morrison (2000). Cronbach's alpha was .91. *Neuroticism* was assessed using a seven-item semantic differential scale developed by Goldberg (1992) with a Cronbach's alpha for this study of .89. *Supervisor's gender* was dummy coded as 0 = male and 1 = female. Both *supervisor's age* and *duration of working relationship with the supervisor* were assessed in years.

## Results

### Measurement Issues

Each of the four organisations that participated in this study was compared based on all study variables (including controls) to determine whether there were significant variations between groups. There were no significant differences across all four organisations in terms of parent ratings of history of family aggression, $F(4,129) = 1.68$, *ns*; hostile cognitions, $F(4,129) = .57$, *ns*; hostile affect, $F(4,129) = .92$, *ns*; angry rumination, $F(4,129) = .36$, *ns*; supervisors' perception of procedural justice, $F(4,129) = 1.70$, *ns*; supervisors' perception of interactional justice, $F(4,129) = .38$, *ns*; supervisors' perception of psychological contract violation, $F(4,129) = 2.39$, *ns*; subordinates' neuroticism, $F(4,129) = .37$, *ns*; and subordinates' perceptions of abusive supervision, $F(4,127) = .49$, *ns*. Similar to Study 4, intraclass coefficients were also calculated to assess whether it was appropriate to analyse the data using multi-level modeling that captures the non-independence of data. The ICC1s were .15 for parent ratings of history of family aggression; -.19 for angry rumination; -.02 for hostile affect; -.12 for hostile cognitions; .15 for supervisors' perceptions of procedural justice; -.18 for supervisors' perceptions of interactional justice; .26 for supervisors' perceptions of psychological contract violation; -.19 for subordinates' neuroticism; and -.15 for subordinates' perceptions of abusive supervision. These values are below the prescribed cut-off of .30 for aggregation of individual level constructs to group levels (Bliese, 2000; Raudenbaush & Bryk, 2002). Overall, these results suggest that membership within each of the organisations had no or very little effect on the interrelationships of the study variables.

Descriptive statistics, zero order correlations, and reliability coefficients are presented in Table 14. Except for supervisor age, duration of working relationship with the supervisor, and supervisor gender, supervisor-reported procedural justice ($r = -.28$, $p<.01$), supervisor-reported interactional justice ($r = -.51$, $p<.01$), supervisor-reported

Table 14

*Means, standard deviations, and zero order correlations of Study 5 variables*

| Variables | *M* | *SD* | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STUDY 5 (N = 134) | | | | | | | | | | | | | | |
| 1. Supervisors gender | .40 | .49 | | | | | | | | | | | | |
| 2. Supervisor age | 31.25 | 3.40 | -.04 | | | | | | | | | | | |
| 3. Procedural justice | 5.10 | 1.43 | -.02 | .13 | (.96) | | | | | | | | | |
| 4. Intereactional justice | 5.33 | 1.49 | .07 | .02 | .57** | (.98) | | | | | | | | |
| 5. Psychological contract violation | 2.37 | 1.32 | -.22 | .01 | -.30** | -.30** | (.91) | | | | | | | |
| 6. Duration of working relationship with supervisor | 2.63 | 2.26 | .05 | .21* | -.07 | -.13 | .20* | | | | | | | |
| 7. Subordinate neuroticism | 3.21 | 1.09 | -.06 | .00 | -.24** | -.32** | .26** | .06 | (.89) | | | | | |
| 8. Parent ratings of history of family aggression | 1.56 | 1.08 | -.15 | -.12 | .04 | -.05 | .13 | -.05 | .24** | (.93) | | | | |
| 9. Supervisors' angry rumination | 3.10 | 1.51 | -.13 | -.05 | -.12 | -.19* | .45** | .10 | .38** | .41** | (.95) | | | |
| 10. Hostile cognitions (WCT) | .19 | .08 | -.03 | .02 | .01 | -.34** | .12 | -.12 | .27** | .27** | .31** | . | | |
| 11. Hostile affect | 2.47 | 1.26 | -.03 | -.02 | -.21* | -.37** | .21* | -.06 | .48** | .48** | .40** | .42** | (.97) | |
| 12. Subordinates' perceptions of abusive supervision | 2.27 | 1.28 | -.18 | -.06 | -.28** | -.51** | .35** | -.13 | .54** | .30** | .37** | .48** | .60** | (.96) |

*Note:* * $p < .05$. ** $p < .01$. *** $p < .001$.

psychological contract violation ($r = .35$, $p<.01$), and subordinates' neuroticism ($r = .54$, $p<.01$) were significantly correlated with subordinates' perceptions of abusive supervision. Thus, these variables were controlled for in subsequent analyses.

**Mediation Analysis**

As with Study 4, the three-step procedure outlined by Baron and Kenny (1986) was followed in examining mediation effects and the analysis was complemented with Preacher and Hayes's (2008) multiple mediator test. The first condition for mediation was supported by a positive relationship between parent-rated history of family aggression and the mediators namely hostile cognitions ($\beta = .21$, $p<.05$) and hostile affect ($\beta = .41$, $p<.001$). The second condition for mediation was also supported by a positive relationship between parent-rated history of family aggression and subordinates' perceptions of abusive supervision ($\beta = .16$, $p<.05$) over and above the effects of the control variables $\Delta R^2=.02$, $F(6, 127) = 17.38$. The third condition for mediation required that the effect of parent-rated history of family aggression on subordinates' perceptions of abusive supervision should substantially reduce upon the inclusion of hostile cognitions and hostile affect in the equation, while both mediators exerting a significant effect. The third condition was met as the beta coefficient between parent-rated history of family aggression and subordinates' perceptions of abusive supervision significantly decreased from .16 to .00 when both hostile cognitions and hostile affect were entered into the regression equation (see Table 15).

**Testing for the Indirect Effects of the Two Mediators**

Similar to Study 4, the significance of the indirect effects of the two mediators were assessed next using Preacher and Hayes's (2008) bootstrapping technique. The total indirect effect of parent-rated history of family aggression through both hostile cognitions

Table 15

*Study 5 Hierarchical Regression Analysis for the Mediating Role of Hostile Cognition and Hostile Affect*

| Study variables | Abusive Supervision | | |
|---|---|---|---|
| | Model 1: Controls only | Model 2: Main effect | Model 3: Mediators |
| *Control variables* | | | |
| Supervisor gender[a] | -.10 | -.08 | -.11 |
| Procedural justice | .06 | .04 | -.02 |
| Interactional justice | -.37*** | -.37*** | -.20* |
| Psychological contract violation | .14 | .13 | .12 |
| Subordinate neuroticism | .40*** | .36*** | .24** |
| *Main effect* | | | |
| History of family aggression | | .16* | .00 |
| *Mediators* | | | |
| Hostile cognitions | | | .21** |
| Hostile affect | | | .28** |
| F | 21.29*** | 19.32*** | 21.06*** |
| Adjusted $R^2$ | .43*** | .45*** | .55*** |
| $\Delta R^2$ | | .02*** | .10*** |

Note: $N = 134$, *$p<.05$, **$p<.01$, ***$p<.001$
[a] 0 = male, 1 = female

and affect was significant, with a point estimate of .17 and a 95% bootstrap confidence interval ranging from .08 to .30. Examination of the specific indirect effects revealed that hostile cognitions was a significant mediator (with a point estimate of .04 and a 95% bootstrapped confidence interval ranging between .01 to .10.) as was hostile affect (with a point estimate of .13 and a 95% bootstrapped confidence interval ranging from .05 to .24). Overall, hypotheses 1 to 4 were once again supported (see Figure 17).

**Tests for Moderated Mediation**

It is further predicted that the strength of the indirect (mediation) effect between parent ratings of history of family aggression and subordinates' perceptions of abusive supervision via hostile cognitions (Hypothesis 5) and hostile affect (Hypothesis 6) is conditional on the value of the proposed moderator supervisors' angry rumination. Specifically, it is expected that supervisors' angry rumination will act as a first stage moderator, moderating the path between parent ratings of history of family aggression and the two psychological states. Similar to Study 4, the SPSS macro designed by Preacher and his colleagues (2007) was utilised to test the moderated mediation hypotheses. This macro was used as it allows researchers to implement bootstrapping methods and probe the significance of conditional indirect effects at different values of the moderator.

Following Preacher and colleagues' (2007) approach, the conditional indirect effect of parent ratings of history of family aggression on subordinates' perceptions of abusive supervision were examined at high and low levels of supervisors' angry rumination operationalised as one standard deviation above and below the mean. The interaction term between parent ratings of history of family aggression and supervisors' angry rumination is expected to be significant as supervisors' angry rumination is proposed to act as a first stage moderator.

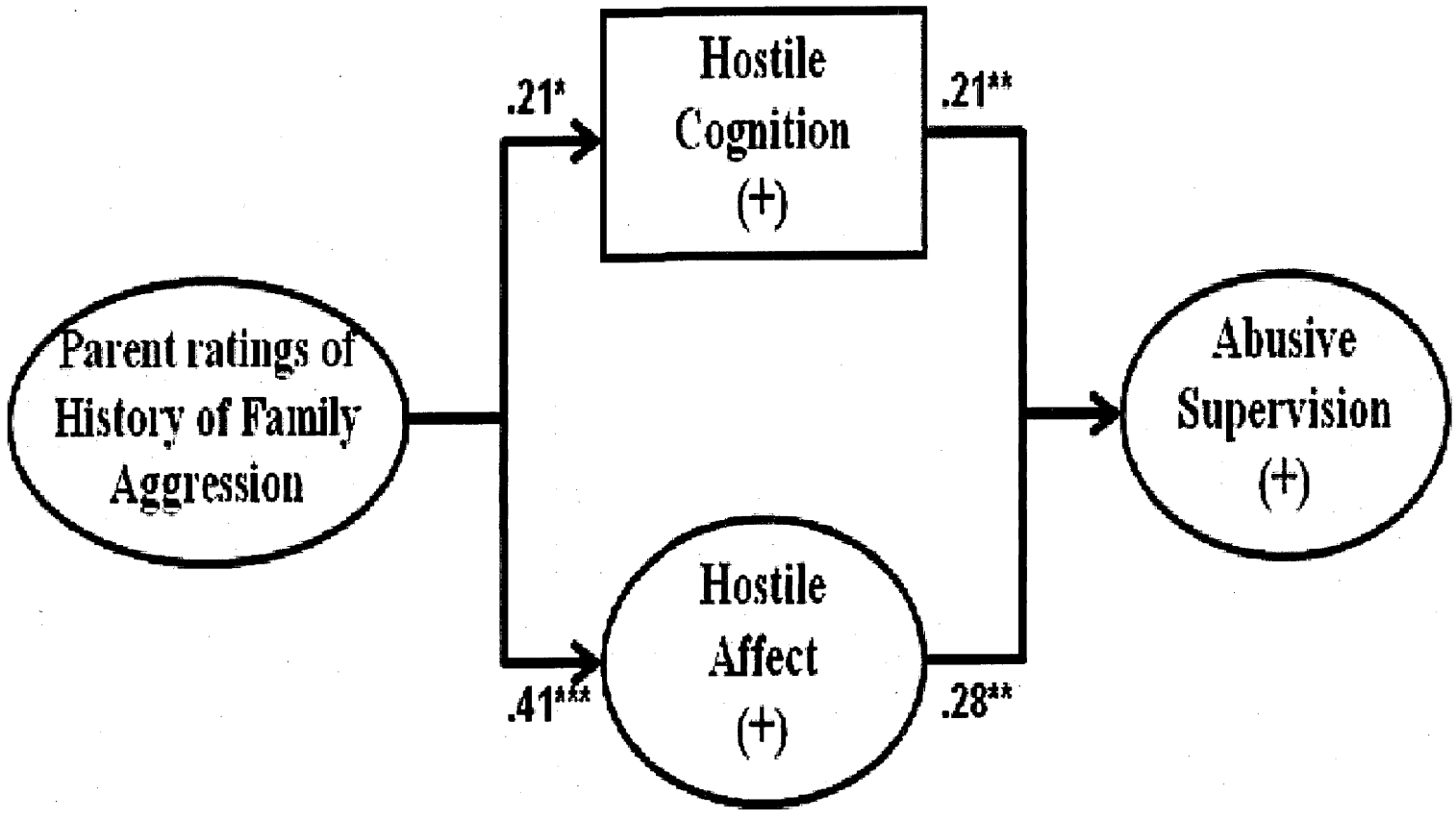


*Figure 17.* Regression model for Study 5 with regression weights after controlling for supervisors' experience of psychological contract violation, procedural justice, interactional justice, subordinates' neuroticism, supervisors' gender, and duration of working relationship with the supervisor.

With regard to Hypothesis 5, results indicated that the cross-product term between parent ratings of history of family aggression and supervisors' angry rumination was not significant ($\beta$ = -.00, *n.s.*) in predicting hostile cognitions. Further examining the conditional indirect effect at specific values of supervisors' angry rumination revealed that the indirect effect of parent ratings of history of family aggression on subordinates' abusive supervision via hostile cognitions was non-significant for both the high angry rumination condition (*indirect effect* = .02, SE = .03, z = .73, 95% CI: -.02 - .10) and the low angry rumination condition (*indirect effect* = .05, SE = .04, z = 1.22, 95% CI: -.01 - .14). Overall, Hypothesis 5 was not supported (see Table 16).

For Hypothesis 6, results revealed that the cross-product term between supervisors' history of family aggression and supervisors' angry rumination was significant ($\beta$ = .14, $p$<.05). Further examining the conditional indirect effect at specific values of supervisors' angry rumination indicated that the indirect effect of supervisors' history of family aggression on subordinates' abusive supervision via hostile affect was significantly stronger in the high angry rumination condition (*indirect effect* = .18, SE = .06, z = 3.09, 95% CI: .08 to .31). However, the indirect effect of supervisors' history of family aggression on subordinates' abusive supervision was not significant in the low angry rumination condition (indirect effect = .05, SE = .05, z = 1.05, 95% CI: -.03 - .16). Overall, Hypothesis 6 was supported (see Table 16).

Simple slopes analyses were conducted to further examine the nature of the significant interaction term between parent ratings of history of family aggression and supervisors' angry rumination in predicting hostile affect. Results revealed that at high levels of angry rumination, there was a stronger positive relationship between parent ratings of history of family aggression and hostile affect, $t(134) = 4.78$, $p$<.001. In

Table 16

*Summary of Conditional Indirect Effects at Low and High Levels of Angry Rumination in Study 5*

| Study 5 | IE | SE | Z | CI |
|---|---|---|---|---|
| Simple paths for low angry rumination (hostile affect) | .05 | .05 | 1.05 | -.03 to .16 |
| Simple paths for high angry rumination (hostile affect) | .18 | .06 | 3.09 | .08 to .31 |
| Simple paths for low angry rumination (hostile cognitions) | .05 | .04 | 1.22 | -.01 to .14 |
| Simple paths for high angry rumination (hostile cognitions) | .02 | .03 | .73 | -.02 to .10 |

contrast, the slope representing low levels of angry rumination was not significant $t(134) = 1.13$, *n.s.* (see Figure 18).

## General Discussion

As with the previous studies, Hypotheses 1 to 4 were once again supported. Hostile cognitions and hostile affect were shown to mediate the relationship between history of family aggression and abusive supervision. This finding strengthens the results obtained from the previous studies in several ways. First, it constructively replicates the proposed relationships from Study 1 to 4 since the present study used a different sample (i.e., parent-supervisor-subordinate triads) and a different operationalisation of history of family aggression (i.e., parent ratings of history of family aggression). Second, the proposed relationships were once again supported even after controlling for established antecedents of abusive supervision. Thus, the study supports the view of Douglas and Martinko (2001) that individual difference variables can explain a unique amount of variance in workplace aggression, and in this case abusive supervision, over and above the effects of situational factors. Finally, one of the aims of the present study was to minimise concerns associated with the use of retrospective data to measure history of family aggression in the previous studies (Studies 2 to 4). Although memory recall problems and social desirability biases may have influenced self-report ratings of history of family aggression, the Conflict Tactics Scales (CTS; Straus, 1979) has inherent means to attenuate such effects. For example, a one year referent period is used in the CTS to aid memory recall (Straus, 1990). That is, respondents are specifically asked to recall the "worst" year of their childhood. Although this may still lead to inaccurate recall, it helps respondents by asking them to focus on a particular event during their childhood. In addition, the CTS also reduces response distortions by asking respondents to rate the extent to which they

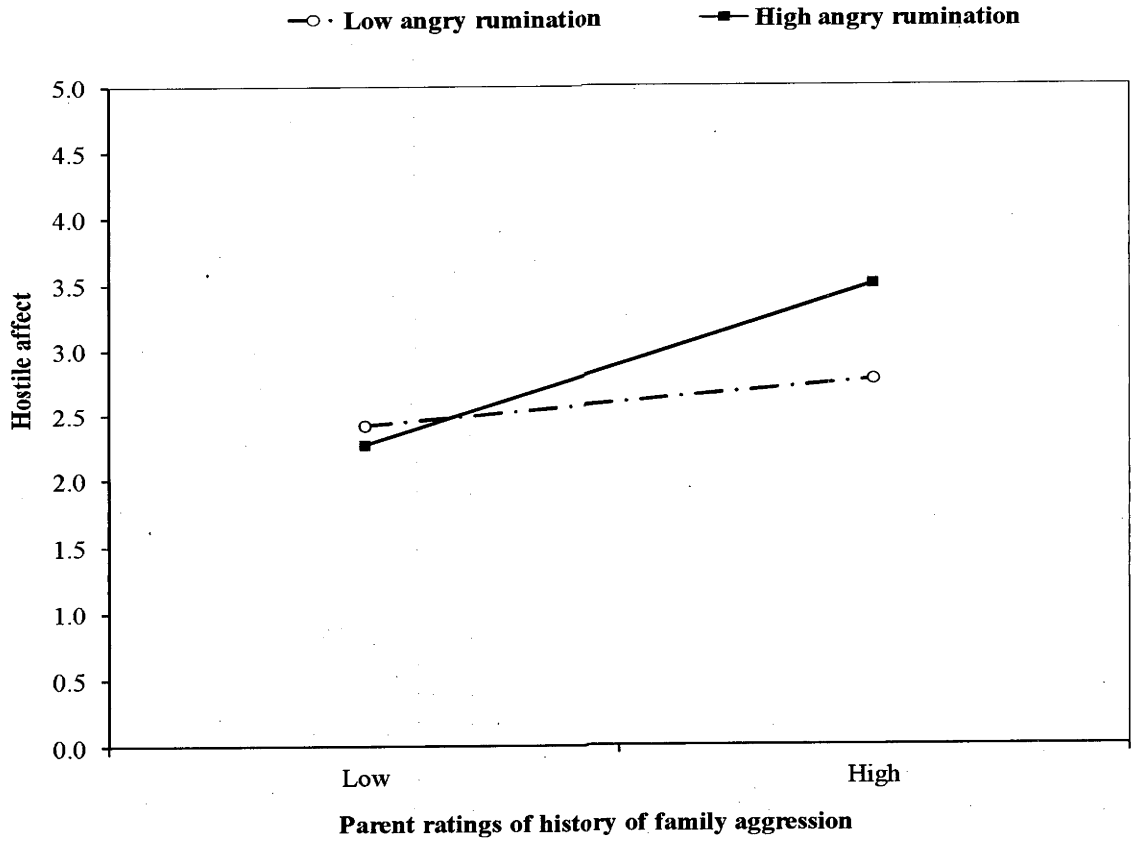


*Figure 18.* The interaction between parent ratings of history of family aggression and angry rumination in predicting hostile affect.

observed specific concrete behaviours or actions. This then minimises chances for varying interpretations of the same behaviour. However, inaccuracies in recall and response distortions may still be present in spite of all of these inherent mechanisms. Thus, parent rating of history of family aggression was used in this study to further bolster the validity of the previous study findings. Indeed, parent ratings of history of family aggression were associated with subordinates' perceptions of abusive supervision, and this relationship is mediated by both hostile cognitions and hostile affect.

Similar to Study 4, we did not find support for Hypothesis 5. That is, the conditional indirect effect between parent ratings of history of family aggression and subordinates' perceptions of abusive supervision via hostile cognitions were not particularly stronger for individuals with high as opposed to low levels of angry rumination. Again, it is possible that supervisors engaged in self-focused rumination as compared to provocation-focused rumination when they think about their past familial experiences (Denson et al., 2006). The WCT used in this study to measure hostile cognitions involved hostile cognition words that were found to be more related to provocation-focused rumination. Furthermore, parent-rated history of family aggression and hostile affect were both assessed using explicit measures while hostile cognitions was assessed using an implicit measure. Thus, it is again possible that the non-significant interaction was due to the differences in the manner the variables were measured.

Mirroring the results in Study 4, we did find support for Hypothesis 6. That is, the conditional indirect effect of parent-rated history of family aggression on subordinates' perceptions of abusive supervision via hostile affect was stronger for individuals with high as opposed to low levels of angry rumination. This is consistent with research supporting the view that angry rumination amplifies negative emotions such as anger (Bushman,

2002; Pedersen et al., 2011; Rusting & Nolen-Hoeksema, 1998). Also, consistent with GAM theory (Anderson & Bushman, 2002), angry rumination was found to interact with history of family aggression. That is, angry rumination served as an input variable that linked a distal memory-driven experience (i.e., history of family aggression) to the increased activation of a more proximal state (i.e., hostile affect) which then impacts on current behaviour (i.e., abusive supervision).

**Summary**

Overall, Study 5 replicated the results of the previous studies and strengthened evidence that supports the hypothesised model. Specifically, majority of the predictions are supported (with the exception of Hypothesis 5), even after controlling for theoretically based control variables that have been found to influence abusive supervision. Furthermore, it provided supporting evidence on the moderating role of angry rumination as it strengthened the mediating role of hostile affect in the relationship between history of family aggression and abusive supervision.

# Chapter 7

## General Discussion of Key Findings and Conclusions

Research on abusive supervision, defined as "subordinates' perceptions of the extent to which supervisors engage in the sustained display of hostile verbal and nonverbal behaviours, excluding physical contact" (Tepper, 2000 p. 178), has continuously increased in recent years (e.g., Einarsen, Aasland, & Skogstad, 2007; Liu, Liao, Loi, in press; Neider & Schriesheim, 2010; Tepper et al., 2011). The reason for this is the recognition that leaders, given their power and authority, can easily abuse their followers. However, less is still known regarding the reasons for engaging in abusive supervision. For example, among the three studies that investigated the antecedents of abusive supervision, all framed it as a response to organisational mistreatment (Aryee, et al., 2007; Hoobler & Brass, 2006; Tepper et al., 2006). Specifically, only a few studies have addressed the call for exploring the role of supervisor-level factors in influencing abusive supervision (Tepper, 2007). This is the case despite evidence suggesting that some individuals may be predisposed to engage in aggressive behaviour across situational contexts (Denson et al., 2006; Garcia et al., 2010). Indeed, Douglas and Martinko (2001) found that 62% of the variance in self-reported workplace aggression can be attributed to individual differences such as trait anger (i.e., the predisposition to experience anger across time and situations; Spielberger et al., 1996) and exposure to aggressive home cultures. An exception is the study by Kiazad and colleagues (2010) which found support for the relationship between Machiavellianism (i.e., tendency to manipulate and exploit others to maximise self-interests; Christie & Geis, 1970) and abusive supervision as mediated by authoritarian leadership (i.e., evaluation of worthiness as an organisational member; Gardner & Pierce, 1998). Furthermore, they also found that organisation-based self-esteem moderated the relationship between authoritarian

leadership and abusive supervision. This study provided evidence that both perpetrator and victim characteristics are salient factors that influence abusive supervision. However, little is still known about the role of prior social learning experiences in predicting abusive supervision. This is important since personality characteristics that predispose individuals towards aggression originate from prior social learning experiences (Anderson & Bushman, 2002). Furthermore, not all workplace stressors are external to the self. Some may come in the form of internally-generated threats such as memories of upsetting events that can influence current behaviour through increasing negative affect and cognition (Kross & Ayduk, 2008; Kross, Davidson, Weber, & Ochsner, 2009). Thus, the present research builds a case that supervisors abuse their subordinates not only as a response to mistreatment. It may also be that supervisors learned to be aggressive through socialisation processes.

The dissertation aimed to contribute to the abusive supervision literature by examining the role of supervisors' history of family aggression in predicting subordinates' perceptions of abusive supervision in a series of five programmatic studies. It had three overarching objectives. First, this research examined the relationship between history of family aggression and the two psychological states, namely: hostile cognitions and hostile affect. Second, it investigated the mediating rôle of these psychological states in the relationship between supervisors' history of family aggression and subordinates' perceptions of abusive supervision. Finally, this research examined the moderating role of angry rumination in the proposed mediated relationship between supervisors' history of family aggression and subordinates' perceptions of abusive supervision.

In this chapter, I summarise the major findings and theoretical contributions of this dissertation. The results of the five studies are reviewed, integrated, and discussed in

relation to the objectives stated. First, the results of the main effect of supervisors' history of family aggression on hostile cognitions and hostile affect are presented followed by a discussion of the mediating effects of these psychological states. The moderating role of angry rumination in the mediated relationship between supervisors' history of family aggression and subordinates' perceptions of abusive supervision is likewise reviewed. The theoretical and practical implications of the findings are then offered and the content and methodological limitations as well as directions for future research are presented. Finally, overall concluding remarks are provided.

**Main Effects of Supervisors' History of Family Aggression on Hostile Cognition and Hostile Affect**

The first objective of the research program was to examine the positive relationship between supervisors' history of family aggression and the two psychological states, namely hostile cognitions and hostile affect. As shown in Table 17, all five studies provided strong evidence that supervisors' history of family aggression increases hostile cognitions and hostile affect. Study 1 provided initial support for these hypothesised relationships using a sample of student-parent dyads. Establishing a significant positive relationship between history of family aggression and hostile cognitions and hostile affect in the beginning of the research program is important because it is one of the key prerequisites for mediation effects to occur (Baron & Kenny, 1986). Thus, Study 1 provided preliminary evidence for the main effect hypothesis and served as a foundation for testing the mediated and moderated mediation models in the subsequent studies.

The main effect hypotheses were also constructively replicated and empirically extended in Studies 2 to 5. In Study 2, the main effect hypothesis was supported using supervisor-subordinate dyads in an organisational context. These results were also

Table 17

*Overview of Hypotheses and Findings across Studies*

| Hypotheses | Study 1 | Study 2 | Study 3 | Study 4 | Study 5 |
|---|---|---|---|---|---|
| H1: History of family aggression will be positively associated with hostile cognitions. | ✓ | ✓ | ✓ | ✓ | ✓ |
| H2: History of family aggression will be positively associated with hostile affect. | ✓ | ✓ | ✓ | ✓ | ✓ |
| H3: The relationship between history of family aggression and abusive supervision is mediated by hostile cognitions. | | ✓ | ✓ | ✓ | ✓ |
| H4: The relationship between history of family aggression and abusive supervision is mediated by hostile affect. | | ✓ | ✓ | ✓ | ✓ |
| H5: The conditional indirect effect of history of family aggression in predicting abusive supervision through hostile cognitions will be stronger for those individuals who engage in high as opposed to low levels of angry rumination. | | | | ✗ | ✗ |
| H6: The conditional indirect effect of history of family aggression in predicting abusive supervision through hostile affect will be stronger for those individuals who engage in high as opposed to low levels of angry rumination. | | | | ✓ | ✓ |

replicated in Studies 3 and 4 using supervisor-subordinate dyads and in Study 5 using parent ratings of history of family aggression with each sample taken from different organisations. Furthermore, the hypothesised main effect was supported even after controlling for subordinates' neuroticism (Studies 3, 4, and 5) and supervisors' demographic characteristics (Studies 4 and 5) as well as previously-established antecedents of abusive supervision such as procedural justice, interactional justice, and psychological contract violation (Studies 4 and 5).

It is also important to note that the hypothesised positive relationship between history of family aggression and hostile cognitions were significant for both explicit and implicit measures of social cognitions. It can be recalled that in Studies 1 and 2, hostile cognitions was measured using Huesmann and Guerra's (1997) Normative Beliefs About Aggression Scale (NOBAGS) while in Studies 3,4, and 5 it was assessed using Anderson and colleagues' (2003; 2004) Word Completion Task (WCT). Although these two measures both assess the accessibility of hostile cognitions, it taps into two different aspects of social cognitions (i.e., explicit and implicit). Explicit social cognitions, which are usually measured via self-reports, represent individuals' conscious cognitions such as self-ascribed values, motives, attitudes, beliefs, and behavioural dispositions (Greenwald & Banaji, 1995; McClelland et al., 1989). Implicit social cognitions on the other hand, reflect the more unconscious aspect of cognitions (Greenwald & Banaji, 1995; McClelland et al., 1989) which become automatic or implicit as a function of developmental or learning experiences that had been lost in memory (Greenwald & Banaji, 1995; James & McIntyre, 2000; Westen, 1991).

Theoretically, the results provided preliminary evidence that previous learning experiences in the family environment influence cognitions both at the explicit and implicit

level. That is, history of family aggression predisposes individuals to think in an aggressive manner not only through conscious beliefs about its acceptability but also via increasing aggressive concepts in memory. This view is in line with the proposition that hostile cognitions can include both beliefs about the acceptability of aggression (Huesmann & Guerra, 1997) as well as aggressive concepts in a semantic network (Berkowitz, 1990, 1993). Methodologically, finding support for both explicit and implicit social cognitions strengthened the validity of the findings in that the positive relationship between history of family aggression and hostile cognitions is not artifactual in nature (e.g., common method variance; Podsakoff & Organ, 1986).

The consistent evidence for the positive relationship between history of family aggression and hostile affect is also in line with GAM (Anderson & Bushman, 2002) and semantic network theories (Berkowitz, 1990, 1993). The results showed that observing interparental aggression leads to the encoding not only of aggressive concepts in memory but also the associated emotions during the event. That is, the emotions experienced during the aversive event are stored in memory and thus activated when similar cues are encountered.

The results are also in line with the Social Learning Theory (Bandura, 1973; 1977) in that the acceptability and utility of aggressive behaviour may be learned not only through direct experience but also through observational learning. In all five studies, history of family aggression was operationalised as observed interparental aggression. More importantly, the results also support the General Aggression Model's (GAM) episodic and personality process frameworks (Anderson & Bushman, 2002). According to the GAM, previous exposure to aggressive environments such as poor parenting or media violence can result in the development of aggressive knowledge structures represented by

aggressive memories, attitudes, beliefs, and desensitisation towards aggression. This then influences the activation and accessibility of aggressive thoughts and feelings. The results from all five studies support this proposition. Indeed, both hostile cognitions and hostile affect are amplified once the supervisor observed high levels of family aggression during childhood.

**The Mediating Role of Hostile Cognitions and Hostile Affect**

The second objective of the research programme was to investigate the mediating role of hostile cognitions and hostile affect in the relationship between history of family aggression and subordinates' perceptions of abusive supervision. Support for the mediation hypotheses were consistently found for Studies 2, 3, 4, and 5 as depicted in Table 17. Study 2 provided preliminary evidence for the mediating roles of hostile cognitions and hostile affect using a sample consisting of supervisor-subordinate dyads. Results from Study 2 were constructively replicated in Studies 3, 4, and 5 by using different organisational samples, data sources (e.g., supervisor-subordinate dyads and parent-supervisor-subordinate triads), and construct operationalisations (e.g., implicit hostile cognitions). For example, in Studies 3, 4, and 5, the mediation hypotheses were once again supported using an implicit measure of hostile cognitions (i.e., WCT; Anderson et al., 2003, 2004). Alternative explanations were also ruled out as subordinates' neuroticism (Studies 3, 4, and 5), supervisor demographic characteristics (Studies 4 and 5), and previously-established antecedents of abusive supervision (Studies 4 and 5) were controlled for in the analyses.

Overall, the results suggested that a supervisor's history of family aggression influences present behaviour in the form of abusive supervision through active and accessible hostile cognitions and affect. This is consistent with GAM theory (Anderson &

Bushman, 2002) in that these two psychological states are proposed to mediate the link between contextual and personality factors and aggressive behaviour. That is, once hostile cognitions and hostile affect are activated and accessible, these states would influence the kind of appraisal formed during a social encounter. Thoughts and feelings that are hostile in nature predispose individuals to appraise situations in accordance to the active thought and emotion as a form of validation. For example, the feeling of anger has been shown to be a powerful cue to engage in aggression as it is used to guide individual's decisions and inferences (Forgas, 1992; Schwarz & Clore, 1996). Hostile cognitions and hostile affect are both predicted to lead to abusive supervision especially during ambiguous social interactions. Supervisors and subordinates interact in the workplace on a daily basis. However, not all of these interactions may be clearly professional or hostile. It is during these occasions in which the psychological states largely influence what kind of interpretations supervisors make regarding their subordinates' actions. Indeed, research suggests that individuals are more likely to form hostile attributions in ambiguous situations as opposed to clear and definite encounters (Homant & Kennedy, 2003).

Another important finding derived in Studies 3, 4, and 5 is that the mediated hypotheses remained significant even after controlling for previously-established antecedents of abusive supervision. This suggests that a supervisors' history of family aggression offers a unique amount of variance in predicting subordinates' perceptions of abusive supervision. Thus, abusive supervision occurs not only because of organisational mistreatment, supervisors also bring with them learned ways of responding to social interactions in the workplace such as engaging in abusive supervision. Consistent with the Social Learning Theory (Bandura, 1973), supervisors exposed to a history of family aggression may believe that aggression is an acceptable means of settling interpersonal

conflicts. Indeed, learned social behaviour may not necessarily be context specific (Bandura, 1973). That is, even if supervisors learned to be aggressive within the family environment, aggressive tendencies can be manifested in different contexts (e.g., workplace) and various sets of relationships (e.g., supervisor-subordinates; Bandura, 1977).

Apart from ruling out alternative explanations for the relationship between history of family aggression and abusive supervision, alternative theoretical models were also tested that were also based on GAM theory (Anderson & Bushman, 2002). That is, history of family aggression may either traverse primarily the cognitive or affective route to abusive supervision as supported by attribution theory (Weiner, 1986) and the cognitive neo-associationistic model (Berkowitz, 1990). Results in Studies 2 and 3 support a dual-activation framework wherein both hostile cognitions and hostile affect are activated and accessible and that both psychological states influence abusive supervisory behaviours. This provides preliminary evidence that modelled aggressive behaviour in the past is manifested as aggressive behaviour in the future because of both cognitive and affective components. Collectively, the significant relationship between history of family aggression and abusive supervision is in accordance with previous research that investigated the role of individual differences and contextual factors outside of organisations in predicting workplace aggression (Dietz et al., 2003; Douglas & Martinko, 2001; Garcia et al., 2011).

**The Moderating Role of Angry Rumination**

As discussed in the introduction, it is also proposed that angry rumination will moderate the mediated relationship between history of family aggression and subordinates' perceptions of abusive supervision. Specifically, it is expected that the mediated

relationship will be stronger for those supervisors high on angry rumination as opposed to those with low angry rumination for both hostile cognitions and hostile affect. The moderated mediation hypotheses were partially supported as shown in Table 17. That is, for Studies 4 and 5, angry rumination only strengthened the mediated relationship between history of family aggression and subordinates' perceptions of abusive supervision for hostile affect but not for hostile cognitions. As discussed in Chapters 5 and 6, this non-significant moderating effect can be explained based on theoretical and methodological grounds. Theoretically, angry rumination can be classified according to whether it is provocation-focused (i.e., ruminating about the provoking incident and acts of retaliation) or self-focused rumination (i.e., ruminating about one's own negative emotions increasing self-critical evaluations) (Denson et al., 2006; Pedersen et al., 2005). Provocation-focused rumination has been found to relate more towards aggressive action cognitions (i.e., hostile cognitions that are behavioural in nature such as concepts included in the word completion task) as opposed to hostile affect that is self-critical in nature (Pedersen, et al., 2011). In relation to the present research, it should be noted that history of family aggression was operationalised as observed interparental aggression. As such, supervisors were not the direct targets of the aggressive acts. Thus, it is possible that when supervisors ruminate about their aggression-related experiences in their respective families, they engaged more in self-critical aversive thoughts (e.g., I feel angry and worthless) as opposed to retaliatory thoughts or revenge cognitions (e.g., I want to get back at my father for hitting my mother). Moreover, the person perpetrating the aggressive act is either the supervisors' father or mother whom the supervisor holds in high regard during their childhood. Methodologically, the non-significant moderating effect of angry rumination on hostile cognitions can also be attributed to how the constructs were measured. History of family

aggression and angry rumination were assessed using self-report scales which are explicit in nature. In contrast, hostile cognitions was measured using the word completion task which taps into implicit social cognitions.

Nevertheless, the significant moderating effect of angry rumination via hostile affect is consistent with the GAM (Anderson & Bushman, 2002). Specifically, rumination can be conceptualised as an input variable that influences one or more of the psychological states (i.e., hostile cognitions or hostile affect). Results of the present research suggest that angry rumination increases hostile affect which then leads to the greater likelihood for abusive supervision to occur. This effect can be further explained by the cognitive neoassociationistic model (Berkowitz, 1990). When supervisors ruminate about their previous experiences such as family aggression, they also relive the accompanying emotion felt associated with the remembered event. Rumination then leads to the frequent activation of hostile emotions such as anger which also activates associated emotions and memories in a semantic network. Furthermore, hostile affect caused by rumination may be paired with new encoded information from the environment or new associations in the semantic network. Thus, cues from the present environment (e.g., the workplace) may readily activate hostile affect if the supervisor encoded such memories or concepts while in a negative affective state. Indeed, the results are consistent with previous research on the influence of rumination on hostile affect (Pedersen et al., 2005; Rusting & Nolen-Hoeksema, 1998).

Although the present research provided evidence that history of family aggression influences current behaviour through learned beliefs and accessible aggressive concepts, the significant moderated mediation results further strengthened this assertion. That is, even without ruminating about past experiences, history of family aggression still

intensified hostile cognitions and hostile affect. However, reliving one's history of family aggression further increases hostile affect, which leads to a greater likelihood to abuse subordinates. Thus, history of family aggression influences current behaviour in the form of abusive supervision both through unconscious (i.e., in the absence of rumination) and conscious (i.e., presence of rumination) thought processes. Angry rumination serves as an additional link between previous experiences and current psychological states and behaviour.

**Theoretical and Practical Implications**

This research programme contributes to the theoretical literature in a number of important ways. First, most of extant work on the antecedents of abusive supervision focused on organisational mistreatment as predictors using displaced aggression as a theoretical framework. This research programme addressed this gap by offering an additional and complimentary perspective on the antecedents of abusive supervision through the integration of the Social Learning Theory (Bandura, 1973) and the GAM (Anderson & Bushman, 2002). On the basis of these two theories, this research provided evidence that abusive supervision can be conceptualised not only as a form of retaliation from workplace injustice but also as learned aggressive behaviour. Furthermore, evidence from this research supports the view that supervisors may bring with them a predisposition to engage in abusive behaviour towards their subordinates. This predisposition is influenced by the extent to which their psychological states are hostile in nature and how frequently they engage in angry rumination. Framing abusive supervision as a form of learned aggressive behaviour also accounts for its sustained nature. That is, supervisors repeatedly abuse their subordinates because they believe in its acceptability and utility. In sum, I conceive of Social Learning and GAM theories not as competing perspectives to

replace displaced aggression theory but rather as complementary theories that adds depths to our understanding in explaining why supervisors engage in abusive supervision. Indeed, Hershcovis and colleagues (2007) encouraged researchers to examine the role of both individual and situational predictors of workplace aggression as these may differentially predict specific targets of the behaviour (i.e., supervisor directed or co-worker directed aggression).

Second, this research programme also extends the family abuse and workplace aggression literatures in general by implicating history of family aggression as a predictor of abusive supervision. Most research on history of family aggression focused on how it is transmitted from one generation to the next in familial and interpersonal relationships (e.g., dating relationships and married couples) despite evidence of the generalisability of Social Learning Theory (Mihalic & Elliot, 1997; O'Keefe, 1998; Straus, 1990; Widom, 1989). Moreover, less research in this area has been done in uncovering the mediating mechanisms that explain why and how the transmission process occurs (Kalmus, 1984). Indeed, this is salient since research has found that not all individuals exposed to aggressive environments will become aggressive in the future (Inness et al., 2005; Smith & Williams, 1992). Thus, the research program addressed this gap by providing evidence that aggression observed in the past is transmitted via the activation and accessibility of hostile cognitions and affect. Similar contributions were made in the workplace aggression literature. This research programme was the first to look at how modeling through observed interparental aggression translates into a specific form of workplace aggression (i.e., abusive supervision). In addition, it was the first study to implicate the mediating role of hostile cognitions and hostile affect. Indeed, existing work on history of family

aggression and workplace aggression only examined direct effect relationships (Douglas & Martinko, 2001; Inness et al., 2005).

Finally, this research programme provided evidence that abusive supervision is also influenced by implicit as much as explicit social cognitions. Results revealed that hostile cognitions mediated the relationship between history of family aggression and subordinates' perceptions of abusive supervision both at the conscious and automatic level of cognitions. To this end, it can be argued that while supervisors who abuse their subordinates may be aware of such behaviour (i.e., according to Tepper, 2000, abusive supervision is voluntary behaviour), it does not necessarily mean that they are aware of their aggressive tendencies. Indeed, research suggests that explicit and implicit aggressiveness may interact to predict specific forms of aggressive behaviour (Frost et al., 2007).

The findings of this research programme also have practical implications for managers and those working in organisational settings. First, results from the studies may help in the development of policies and programs that minimise aggressive behaviour in the workplace. Given that the study frames abusive supervision as a socially-learned behaviour, it directs the attention of organisations to the importance of role models. Policies that reward pro-social and punish aggressive behaviours may increase the appraised "cost" of engaging in abusive supervision, which may consequently decrease aggressive responding. Similarly, an environment characterised by positive organisational norms results in having fewer opportunities for ambiguous interactions, which may prevent hostile interpretations. If organisations and their constituents present themselves in a positive manner, it will be difficult for abusive supervisors to justify engaging in aggression. Furthermore, organisations are advised to clearly articulate and define

inappropriate behaviour in the workplace. Aside from developing norms of appropriate behaviour, it also communicates that certain forms of aggression are not part-of-the-job (Neuman & Baron, 1998). This is especially important in the case of abusive supervision which can easily be perceived as "acceptable" due to the power imbalance between supervisors and subordinates. Given that immediate supervisors are involved, alternative channels by which subordinates can report abusive behaviours are also recommended.

Second, the research programme's findings may be used to develop more focused intervention strategies to help aggressive individuals deal with their interactions in the workplace. For example, Salomon (1998) described an organisation that, in an effort to counter the impact of domestic violence on workplace aggression, developed a series of training modules that taught employees how to deal with perpetrators and victims of domestic violence. Similarly, counseling interventions through cognitive behaviour therapy (CBT; Ellis, 1969) may prove useful by exposing abusive supervisors to their irrational beliefs and helping them dispute their aggressive thoughts. Through leadership training programs, supervisors can be trained on non-aggressive means of dealing with their subordinates with a particular focus on improving social skills through correcting automatic appraisals of events influenced by highly activated hostile cognitions and affect. Finally, the study was able to demonstrate that workplace aggression may be prevented through stringent employee selection strategies. As Bergman, McIntyre, and James (2004) explained:

> One way for organizations to address the problem of workplace aggression is to reduce the number of aggression-prone individuals that it brings into the organization. That is, organizations can try to identify and screen out aggression-prone individuals in the hiring process. The logic behind this strategy is that

reducing the number of aggression-prone individuals will lower the probability of aggressive behaviour (p. 82).

**Methodological Limitations and Strengths of the Present Research Programme**

Although the results of this research programme supported most of the hypothesised relationships, there are a number of limitations that need to be acknowledged and considered. First, arousal was not included in the proposed theoretical model due to practical considerations. The GAM treats arousal as an internal state similar to hostile cognitions and hostile affect. Arousal is also operationalised as both a psychological (e.g., perceptions of excitement or relaxation) and physiological (e.g., based on heart rate or blood pressure) state that can influence aggressive behavior (Anderson & Bushman, 2002). The research programme focused on the role of cognitions and affect because these variables can easily be measured within an organisational context compared to arousal, which necessitates precise and controlled responses. Similarly, the research programme was unable to account for the appraisal process in the proposed model as the measurement of the psychological states may interfere with the measurement of appraisals given that all variables were measured at the same time (Lindsay & Anderson, 2000). For example, Berman and Kenny (1986) pointed out that respondents may hold assumptions as to how rated items co-occur. This may result in a systematic distortion of how variables are correlated.

Second, the research program was mainly cross-sectional in nature despite introducing a three-month time lag in Study 5. This was done mainly to address issues associated with common method variance and not to introduce a longitudinal research design (Podsakoff & Organ, 1986). Given this, inferences regarding cause-and-effect relationships cannot be ascertained. Although theoretically plausible alternative models

were tested (e.g., dual-activation vs. spreading activation process), the present research was unable to capture the effect of time, which is important because past experiences were linked to present psychological states and behaviours. In their recent theoretical work, Douglas and colleagues (2008) outlined alternative processes by which work environment and personality lead to workplace aggression. They offered three alternative processes, which represent affect/emotions, attributions, and attitude. These processing routes vary in terms of the level of deliberate or mindful processing (i.e., automatic or conscious processing of stimuli) which alludes to the salience of time. This emphasises the need to employ longitudinal research designs to assess the temporal ordering of constructs in the theoretical model presented here.

The third source of methodological concern is with respect to the measures used to assess history of family aggression and hostile affect. With regard to history of family aggression, several procedures were used to minimise problems associated with its retrospective nature. For example, a one-year referent period was used to aid participants in recalling history of family aggression and the items were composed of concrete and specific aggressive tactics to reduce misinterpretations of what constitutes aggressive behaviour. Furthermore, in both Studies 1 and 5, parent ratings of history of family aggression were used to cross-validate significant results obtained in Studies 2, 3, and 4 in which history of family aggression was measured using self-reports. Despite these steps, social desirability and memory recall problems cannot be entirely ruled out. Thus, it would be beneficial to obtain a more objective measure of family aggression such as archival records of family abuse. Another measurement issue arises with how hostile affect was assessed across all five studies. Hostile affect was measured using self-reports of the extent to which the respondents experienced specific emotions such as "angry" and

"aggravated" (Anderson et al., 1995). Although this reflects a psychological state, hostile affect is also self-ascribed and captures conscious discrete emotions which may not necessarily tap the automatic nature of hostile affect. Thus, it would have been ideal to measure hostile affect using an implicit measure similar to the word completion task used for hostile cognitions.

Despite these methodological constraints, there are a number of strengths in this dissertation that are worth highlighting. First, this research programme presented consistent evidence to support the proposed relationships through constructive replication and empirical extension. Specifically, each of the five studies builds on the previous one by using a different sample in various organisational contexts as well as including theoretically relevant control variables. Thus, although the research program was primarily cross-sectional in nature, the fact that most of the research hypotheses were supported across five studies strengthens the robustness and validity of the findings. Second, the collection of multi-source data on some of the focal constructs in the theoretical model (i.e., supervisor-subordinate dyads and parent-supervisor-subordinate triads) was another noteworthy methodological strength, given the sensitive nature of most of the study variables. The utilisation of multiple data sources (e.g., parent ratings of history of family aggression and subordinate perceptions of abusive supervision) is likely to provide more reliable ratings as it minimises same-source bias (Podsakoff & Organ, 1986) and provides a means to cross-validate results obtained from self-reports. Lastly, the research programme addressed the reliance on self-reported data in abusive supervision research by introducing implicit measures of social cognition in the form of the word completion task (Anderson et al., 2003, 2004). Aside from attenuating common method variance, it also tapped into unconscious cognitive processes that are hidden from

introspection and thus cannot be measured using self-report measures (Greenwald & Banaji, 1995; James & McIntyre, 2000).

**Directions for Future Research**

The present research program offered preliminary evidence on the relationship between history of family aggression and abusive supervision. As such, there are a number of avenues for future research. The first one concerns how history of family aggression was operationalised in the present research. According to Social Learning Theory (Bandura, 1973), individuals learn aggressive behaviour through two main social learning mechanisms—direct experience and observational learning. Indeed, studies concerning the intergenerational transmission of violence found that both received and observed aggression during childhood positively relates to adult aggressive behaviour (Briere, 1987; Chermack & Walton, 1999; Hotaling & Sugarman, 1986). Thus, it would be interesting to also examine the role of received family aggression (i.e., the child being the target of aggressive behaviour in the family) and how it interacts or contrasts with observed interparental aggression. Based on Social Learning, both forms of family aggression may result in abusive supervision but it is unclear whether the magnitude of the relationship will be similar.

Recent attempts were made to increase the nomological net of abusive supervision research particularly with regard to its antecedents. Recently, Tepper and colleagues (2011) investigated the role of perceived supervisor-subordinate dissimilarity in predicting abusive supervision using moral exclusion (Opotow, 1995) as a theoretical framework. According to their findings, supervisors will more likely abuse their subordinates if they perceive them to be dissimilar in terms of values and beliefs. Those dissimilar to them are believed to be outside their scope of justice which meant they are less deserving of fair

treatment (Opotow, 1995). Thus, this signals a move towards utilising other domain specific theories grounded in related disciplines such as philosophy and social psychology in explaining the causes of abusive supervision. In relation to this, a growing number of studies are using attachment theory (Bowlby, 1973) to explain leader-member dynamics in organisations (Davidovitz, Mikulincer, Shaver, Izsak, & Popper, 2007; Richards & Hackett, in press). Attachment theory states that people are born with an innate tendency to seek proximity and safety from others particularly attachment figures (Bowlby, 1973). During the formative years, children consider their parents as the primary attachment figure. Poor parenting results in either anxious attachment style (i.e., negative view of self) or avoidant attachment style (i.e., negative view of others) (Mikulincer & Shaver, 2005; Richards & Hackett, in press). Research suggests that attachment theory may explain leader-member behaviours because leaders and attachment figures have common characteristics (Davidovitz et al., 2007). For example, Game (2008) suggested that parent-child and supervisor-subordinate relationships mirror each other because (1) supervisors are viewed by subordinates as authority figures capable of influencing their behaviours and decisions similar to how children view their parents; (2) like parents do with children, supervisors control the sanctions and rewards offered to subordinates; and (3) supervisors are a key source of work-related support for subordinates, as parents are a source of support for children. Thus, it is possible that supervisor and subordinate attachment style may interact to predict the outcome of abusive supervision. For example, it would be interesting to explore which attachment style is more strongly related to abusive supervision. Furthermore, it can also be hypothesised that subordinates' would react differently towards abusive supervision depending on their attachment style. According to attachment theory (Bowlby, 1973), individuals with an anxious attachment style use

hyperactivating strategies such as attention seeking behaviours to fulfil their attachment needs. In contrast, individuals with an avoidant attachment style use withdrawal as a means to cope with unmet attachment needs. Thus, when abusive supervision occurs, it is expected that those individuals with an anxiety attachment style will engage in more attention-seeking behaviours (e.g., ingratiation) as compared to those with an avoidant attachment style.

Another promising avenue for future research lies with exploring other dispositional characteristics that might be relevant in the context of abusive supervision. For example, one specific person factor that has been found to influence aggressive behavior is narcissism (Bushman & Baumeister, 1998). It is characterized by inflated, grandiose, or unjustified favourable views of self (McFarlin & Sweeney, 2000). Because of this, individuals high in narcissism are sensitive to even slight insults or criticisms viewing these as threats to the self (Kernberg, 1975). In order to maintain and protect their inflated self-image, narcissists engage in hostile behaviours such as retaliation and derogation of others (McFarlin & Sweeney, 2000; Bushman & Baumeister, 1998). In the workplace, threats to a supervisor's self-image may come in the form of their subordinates' poor performance which may be seen as a reflection of their own efficiency as leader. Thus, it is plausible that those supervisors with high levels of narcissism may engage in greater abusive supervision compared to those with low levels of narcissism.

The construct of abusive supervision has been shown to be generalisable across cultures (e.g., China: Aryee et al., 2007, Liu, Kwan, Wu, & Wu, 2010; Israel: Yagil, 2006, Yagil, Ben-Zur, & Tamir, 2011; the Philippines: Restubog et al., 2011). Thus, there is no doubt that abusive supervision results in detrimental outcomes for employees and organisations regardless of national context. However, cultural differences may still exert

its influence on abusive supervision by varying the degree to which it is negatively perceived. One cultural dimension that is particularly salient and relevant to abusive supervision is power distance beliefs (i.e., the extent to which unequal distribution of power is accepted; Hofstede, 1980). Indeed, Tepper (2007) pointed out that countries with high power distance orientations may experience greater abusive supervision since unequal power distributions are perceived to be legitimate. Furthermore, power distance orientations may also influence organisational norms on the acceptability of aggressive behaviour such as abusive supervision. Given this, future research may benefit from exploring this cultural dimension in relation to both the perpetration of and reactions towards abusive supervision.

**Overall Conclusions**

The results of this research programme build on the abusive supervision literature in three important ways. First, this research expanded the known antecedents of abusive supervision and offered a novel theoretical perspective that accounts for supervisor-level factors outside of organisations that influence its occurrence. Second, it examined the process by which history of family aggression predicts subordinates' perceptions of abusive supervision by implicating hostile cognitions and hostile affect as mediating mechanisms. Furthermore, it explored the moderating role of angry rumination in the proposed mediated relationship. Third, it addressed methodological issues associated with extant abusive supervision research through the use of multi-source data, constructive replication, and implicit measures of social cognition. In the attainment of these major aims, the results of this research programme made significant theoretical and practical contributions in answering the question, "Why do supervisors abuse their subordinates?"

Let me end by imparting a poem by Margaret Jang which eloquently conveys the essence of this dissertation:

> To know your future, you must know your past,
>
> each stepping stone that has been cast.
>
> Remember the good, as well as the bad,
>
> and feel the emotions of happy and sad...
>
> And once you have reached a higher ground,
>
> just stop to rest and survey around.
>
> You will know your future, as clear as glass,
>
> once you forgive and heal from your past.
>
> (1-4, 21-24)

## References

Adams, S. H., & John, O. P. (1997). A hostility scale for the california psychological inventory: MMPI, observer Q-Sort, and big-five correlates. *Journal of Personality Assessment, 69*, 408 - 424.

Allen, N. J., & Meyer, J. P. (1996). Affective, continuance, and normative commitment to the organization: An examination of construct validity. *Journal of vocational Behavior, 49*, 252-276.

Anderson, C. A. (1997). Effects of violent movies and trait hostility on hostile feelings and aggressive thoughts. *Aggressive Behavior, 23*, 161-178.

Anderson, C. A., Anderson, K. B., & Deuser, W. E. (1996). Examining affective aggression framework: Weapon and temperature effects on aggressive thoughts, affect, and attitudes. *Personality and Social Psychology Bulletin, 22*, 366-376.

Anderson, C. A., & Bushman, B. J. (2001). Effects of violent video games on aggressive behavior, aggressive cognition, aggressive affect, physiological arousal, and prosocial behavior: A meta-analytic review of the scientific literature. *Psychological Science, 12*, 353.

Anderson, C. A., & Bushman, B. J. (2002). Human aggression. *Annual Review of Psychology, 53*, 27-51.

Anderson, C. A., Carnagey, N. L., & Eubanks, J. (2003). Exposure to violent media: The effects of songs with violent lyrics on aggressive thoughts and feelings. *Journal of Personality and Social Psychology, 84*, 960-971.

Anderson, C. A., Carnagey, N. L., Flanagan, M., Benjamin, A. J., Eubanks, J., & Valentine, J. C. (2004). Violent video games: Specific effects of violent content on

aggressive thoughts and behavior. *Advances in Experimental Social Psychology, 36*, 199-249.

Anderson, C. A., Deuser, W. E., & DeNeve, K. M. (1995). Hot temperatures, hostile affect, hostile cognition, and arousal: Tests of a general model of affective aggression. *Personality and Social Psychology Bulletin, 21*, 434-448.

Anderson, C. A., & Dill, K. E. (2000). Video games and aggressive thoughts, feelings, and behavior in the laboratory and in life. *Journal of Personality and Social Psychology, 78*, 772-790.

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin, 103*, 411-423.

Anderson, K. B., Anderson, C. A., Dill, K. E., & Deuser, W. E. (1998). The interactive relations between trait hostility, pain, and aggressive thoughts. *Aggressive Behavior, 24*, 161-171.

Andersson, L. M., & Pearson, C. M. (1999). Tit for tat? The spiraling effect of incivility in the workplace. *The Academy of Management Review, 24*, 452-471.

Aquino, K. (2000). Structural and individual determinants of workplace victimization: The effects of hierarchical status and conflict management style. *Journal of Management, 26*, 171-193.

Aquino, K., & Bradfield, M. (2000). Perceived victimization in the workplace: The role of situational factors and victim characteristics. *Organization Science, 11*, 525-537.

Aquino, K., Grover, S. L., Bradfield, M., & Allen, D. G. (1999). The effects of negative affectivity, hierarchical status, and self-determination on workplace victimization. *The Academy of Management Journal, 42*, 260-272.

Arbuckle, J. L. (2008). *AMOS (TM) 17.0 user's guide*. Chicago: IL: SPSS.

Aryee, S., Chen, Z. X., Sun, L., & Debrah, Y. A. (2007). Antecedents and outcomes of abusive supervision: Test ofa trickle-down model. *Journal of Applied Psychology, 92*, 191-201.

Ashforth, B. E. (1987). *Organizations and the petty tyrant: An exploratory study*. Paper presented at the annual meeting of the Academy of Management, New Orleans, LA.

Ashforth, B. E. (1994). Petty tyranny in organizations. *Human Relations, 47*, 755-778.

Ashforth, B. E. (1997). Petty tyrrany in organizations: A preliminary examination of antecedents and consequences. *Canadian Journal of Administrative Sciences 14*, 126-140.

Ayduk, O., Mischel, W., & Downey, G. (2002). Attentional mechanisms linking rejection to hostile reactivity: The role of 'hot' versus 'cool' focus. *Psychological Science, 13*, 443-448.

Bandura, A. (1965). Influence of models' reinforcement contingencies on the acquisition of imitative responses. *Journal of personality and social psychology, 1*, 589-595.

Bandura, A. (1973). *Aggression: A social learning analysis*. Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1977). *Social learning theory* Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1983). Psychological mechanisms of aggression. In R. G. Geen & E. I. Donnerstein (Eds.), *Aggression: Theoretical and empirical reviews* (Vol. 1, pp. 1-40). New York: Academic Press.

Bandura, A. (1985). Model of causality in social learning theory In M. J. Mahoney, A. Freeman, P. Devito & D. Martin (Eds.), *Cognition and psychotherapy* (Second ed.): Springer Publishing Company.

Bandura, A., Ross, D., & Ross, S. A. (1963). Imitation of film-mediated aggressive models. *The Journal of Abnormal and Social Psychology, 66*, 3-11.

Baron, R. A., Neuman, J. H., & Geddes, D. (1999). Social and personal determinants of workplace aggression: Evidence for the impact of perceived injustice and the type a behavior pattern. *Aggressive Behavior, 25*, 281-296.

Baron, R. A., & Richardson, D. (1993). *Human Aggression* (2nd ed.). New York: Plenum Press.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182.

Bass, B. M. (1990). *Bass and stogdill's handbook of leadership: Theory, research, & managerial applications* (3rd ed.). New York Free Press.

Becker, T. E. (2005). Potential problems in the statistical control of variables in organizational research: A qualitative analysis with recommendations. *Organizational Research Methods, 8*, 274-289.

Bergman, S. M., McIntyre, M. D., & James, L. R. (2004). Identifying the aggressive personality. *Journal of Emotional Abuse, 4*, 81-93.

Berkowitz, L. (1983). Aversively stimulated aggression: Some parallels and differences in research with animals and humans. *American Psychologist, 38*, 1135-1144.

Berkowitz, L. (1990). On the formation and regulation of anger and aggression: A cognitive-neoassociationistic analysis. *American Psychologist, 45*, 494-503.

Berkowitz, L. (1993). *Aggression: Its causes, consequences, and control.* Philadelphia: Temple University Press.

Bernardo, A. B. I. (2004). McKinley's questionable bequest: over 100 years of English in Philippine education. *World Englishes, 23*, 17-31.

Bies, R. J. (2001). Interactional (in)justice: The sacred and the profane. In J. Greenberg & R. Cropanzano (Eds.), *Advances in organizational justice.* CA: Standford University Press.

Bifulco, A., Brown, G. W., Lillie, A., & Jarvis, J. (1997). Memories of Childhood Neglect and Abuse: Corroboration in a Series of Sisters. *Journal of Child Psychology and Psychiatry, 38*, 365-374.

Bing, M. N., LeBreton, J. M., Davison, H. K., Migetz, D. Z., & James, L. R. (2007). Integrating implicit and explicit social cognitions for enhanced personality assessment: A general framework for choosing measurement and statistical methods. *Organizational Research Methods, 10*, 136-179.

Bing, M. N., Stewart, S. M., Davison, H. K., Green, P. D., McIntyre, M. D., & James, L. R. (2007). An integrative typology of personality assessment for aggression: Implications for predicting counterproductive workplace behavior. *Journal of Applied Psychology, 92*, 722-744.

Björkqvist, K., Lagerspetz, K. M. J., & Kaukiainen, A. (1992). Do girls manipulate and boys fight? developmental trends in regard to direct and indirect aggression. *Aggressive Behavior, 18*, 117-127.

Björkqvist, K., Österman, K., & Hjelt-Bäck, M. (1994). Aggression among university employees. *Aggressive Behavior, 20*, 173-184.

Blau, P. M. (1964). *Exchange and power in social life* New York: John Wiley.

Bliese, P. D. (2000). Within-group agreement, non-independence, and reliability: Implications for data aggregation and analysis. In K. J. Klein & S. W. Kozlowski (Eds.), *Multilevel Theory, Research, and Methods in Organizations*. San Francisco, CA: Jossey-Bass.

Bolger, N., & Zuckerman, A. (1995). A framework for studying personality in the stress process. *Journal of personality and social psychology, 69*, 890-902.

Borders, A., Barnwell, S. S., & Earleywine, M. (2007). Alcohol-aggression expectancies and dispositional rumination moderate the effect of alcohol consumption on alcohol-related aggression and hostility. *Aggressive Behavior, 33*, 327-338.

Bowlby, J. (1973). *Attachment and loss. Vol. 2: Separation*. New York: Basic.

Breaux, D., & Perrewé, P. L. (2009). *An experimental investigation of abusive supervision as an emotional reaction to injustice*. Paper presented at the 2009 Academy of Management Conference.

Briere, J. (1987). Predicting self-reported likelihood of battering: Attitudes and childhood experiences. *Journal of Research in Personality, 21*, 61-69.

Bulcroft, R., & Straus, M. A. (1975). *Validity of husband, wife, and child reports of intrafamily violence and power*. Mimeographed paper.

Bushman, B. J. (2002). Does venting anger feed or extinguish the flame? Catharsis, rumination, distraction, anger, and aggressive responding. *Personality and Social Psychology Bulletin, 28*, 724-731.

Bushman, B. J., & Anderson, C. A. (2002). Violent video games and hostile expecations: A test of the general aggression model. *Personality and Social Psychology Bulletin, 28*, 1679-1686.

Bushman, B. J., Bonacci, A. M., Pedersen, W. C., Vasquez, E. A., & Miller, N. (2005). Chewing on it can chew you up: Effects of rumination on triggered displaced aggression. *Journal of Personality and Social Psychology, 88*, 969-983.

Bushman, B. J., & Geen, R. G. (1990). Role of cognitive-emotional mediators and individual differences in the effects of media violence on aggression. *Journal of personality and social psychology, 58*, 156-163.

Buss, A. H. (1971). Aggression pays. In J. Singer (Ed.), *The control of aggression and violence*. New York: Academic Press.

Buss, A. H., & Perry, M. (1992). The Aggression Questionnaire. *Journal of Personality and Social Psychology, 63*, 452-459.

Cappell, C., & Heiner, R. B. (1990). The intergenerational transmission of family aggression. *Journal of Family Violence, 5*, 135-152.

Castro, B. O. d., Veerman, J. W., Koops, W., Bosch, J. D., & Monshouwer, H. J. (2002). Hostile attribution of intent and aggressive behavior: A meta-analysis. *Child Development, 73*, 916-934.

Chermack, S. T., & Walton, M. A. (1999). The relationship between family aggression history and expressed aggression among college males. *Aggressive Behavior, 25*, 255-267.

Christie, R., & Geis, F. L. (1970). *Studies in Machiavellianism*. New York: Academic Press.

Clark, M. S., & Isen, A. M. (1981). Toward understanding the relationship between feeling states and social behavior. In A. H. Hastorf & A. M. Isen (Eds.), *Cognitive social psychology*. New York: Elsevier.

Cohen, R. J., & Swerdlik, M. E. (2002). *Psychological testing and assessment: An introduction to tests and measurement* (5th ed.). Boston: McGraw-Hill.

Crick, N. R., & Dodge, K. A. (1994). A review and reformation of social information processing mechanisms in children's social adjustment. *Psychological Bulletin, 115*, 74-101.

Cronbach, L. J. (1970). *Essentials of psychological testing* (3rd ed.). New York: McGraw-Hill.

Davidovitz, R., Mikulincer, M., Shaver, P. R., Izsak, R., & Popper, M. (2007). Leaders as attachment figures: leaders' attachment orientations predict leadership-related mental representations and followers' performance and mental health *Journal of Personality and Social Psychology 93*, 632-650.

Deffenbacher, J. L., Oetting, E. R., Lynch, R. S., & Morris, C. D. (1996). The expression of anger and its consequences. *Behaviour Research and Therapy, 34*, 575-590.

Delsol, C., & Margolin, G. (2004). The role of family-of-origin violence in men's marital violence perpetration. *Clinical Psychology Review, 24*, 99-122.

Denson, T. F., Pedersen, W. C., & Miller, N. (2006). The displaced aggression questionnaire. *Journal of Personality and Social Psychology, 90*, 1032-1051.

Denson, T. F., Pedersen, W. C., Ronquillo, J., & Nandy, A. S. (2009). The angry brain: Neural correlates of anger, angry rumination, and aggressive personality. *Journal of Cognitive Neuroscience, 21*, 734-744.

Denson, T. F., White, A. J., & Warburton, W. A. (2009). Trait displaced aggression and psychopathy differentially moderate the effects of acute alcohol intoxication and rumination on triggered displaced aggression. *Journal of Research in Personality, 43*, 673-681.

Dietz, J., Robinson, S. L., Folger, R., Baron, R. A., & Schulz, M. (2003). The impact of community violence and an organization's procedural justice climate on workplace aggression. *The Academy of Management Journal, 46*, 317-326.

Dill, K. E., Anderson, C. A., Anderson, K. B., & Deuser, W. E. (1997). Effects of aggressive personality on social expectations and social perceptions. *Journal of Research in Personality, 31*, 272-292.

Dollard, J., Doob, L., Miller, N., Mowrer, O., & Sears, R. (1939). *Frustration and aggression*. New Haven, CT: Yale University Press.

Douglas, S. C., Kiewitz, C., Martinko, M. J., Harvey, P., Younhee, K. I. M., & Jae Uk, C. (2008). Cognitions, Emotions, and Evaluations: An Elaboration Likelihood Model for Workplace Aggression. *Academy of Management Review, 33*, 425-451.

Douglas, S. C., & Martinko, M. J. (2001). Exploring the role of individual differences in the prediction of workplace aggression. *Journal of Applied Psychology, 86*(4), 547-559.

Doumas, D., Margolin, G., & John, R. S. (1994). The intergenerational transmission of aggression across three generations. *Journal of Family Violence, 9*, 157-175.

Duffy, M. K., Ganster, D. C., & Pagon, M. (2002). Social undermining in the workplace. *The Academy of Management Journal, 45*, 331-351.

Dutton, D. G., van Ginkel, C., & Starzomski, A. (1995). The role of shame and guilt in the intergenerational transmission of abusiveness. *Violence and Victims, 10*, 121-131.

Dyne, L. V., Ang, S., & Botero, I. C. (2003). Conceptualizing employee silence and employee voice as multidimensional constructs. *Journal of Management Studies, 40*, 1359-1392.

Einarsen, S., Aasland, M. S., & Skogstad, A. (2007). Destructive leadership behaviour: A definition and conceptual model. *The Leadership Quarterly, 18*, 207-216.

Eisenberger, R., Karagonlar, G., Stinglhamber, F., Neves, P., Becker, T. E., Gonzalez-Morales, M., et al. (2010). Leader-member exchange and affective organizational commitment: The contribution of supervisor's organizational embodiment. *Journal of Applied Psychology, 95*, 1085-1103.

Ellis, A. (1969). Rational-emotive therapy. *Journal of Contemporary Psychotherapy, 1*, 82-90.

Fisher, R. J. (1993). Social desirability bias and the validity of indirect questioning. *The Journal of Consumer Research, 20*, 303-315.

Forgas, J. P. (1992). Affect in social judgments and decisions: A multiprocess model. *Advances in Experimetnal Social Psychology, 25*, 227-275.

Forsstrom-Cohen, B., & Rosenbaum, A. (1985). The effects of parental marital violence on young adults: An exploratory investigation. *Journal of Marriage and Family, 47*, 467-472.

Fridhandler, B. M., & Zeichner, A. (1982). Temporal dimensions of anger: An exploration of time and emotion. In J. R. Averill (Ed.), *Anger and aggression*. New York: Springer-Verlag.

Frost, B. C., Ko, C.H. E., & James, L. R. (2007). Implicit and explicit personality: A test of a channeling hypothesis for aggressive behavior. *Journal of Applied Psychology, 92*, 1299-1319.

Game, A. M. (2008). Negative emotions in supervisory relationships: The role of relational models. *Human Relations, 61*, 355-393.

Garcia, P. R. J. M., Restubog, S. L. D., & Denson, T. F. (2010). The moderating role of prior exposure to aggressive home culture in the relationship between negative reciprocity and aggression. *Journal of Research in Personality, 44*, 380-385.

Garcia, P. R. J. M., Restubog, S. L. D., Toledano, L. S., Tolentino, L. R., & Rafferty, A. E. (2012). Differential moderating effects of student and parent-rated support in the relationship between learning goal orientation and career decision-making self-efficacy. *Journal of Career Assessment, 20*, 22-33.

Gardner, D. G., & Pierce, J. L. (1998). Self-esteem and self-efficacy within the organizational context. *Group and Organization Management, 23*, 48-70.

Geen, R. G., & Donnerstein, E. D. (1998). *Human aggression : Theories, research, and implications for social policy*: Academic Press.

Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. *Psychological Assessment, 4*, 26-42.

Gordon, R. A. (1968). Issues in multiple regression. *The American Journal of Sociology, 73*, 592-616.

Gouldner, A. W. (1960). The norm of reciprocity: A preliminary statement. *American Sociological Review, 25*, 161-178.

Greenberg, L., & Barling, J. (1999). Predicting employee aggression against coworkers, subordinates and supervisors: The roles of person behaviors and perceived workplace factors. *Journal of Organizational Behavior, 20*, 897-913.

Greenwald, A. G., & Banaji, M. R. (1995). Implicit social cognition: Attitudes, self-esteem, and stereotypes. *Psychological Review, 102*, 4-27.

Hardt, J., & Rutter, M. (2004). Validity of adult retrospective reports of adverse childhood experiences: review of the evidence. *Journal of Child Psychology and Psychiatry, 45*, 260-273.

Harris, K. J., Kacmar, K. M., & Zivnuska, S. (2007). An investigation of abusive supervision as a predictor of performance and the meaning of work as a moderator of the relationship. *The Leadership Quarterly, 18*, 252-263.

Harrison, D. A., Price, K. H., & Bell, M. P. (1998). Beyond relational demography: Time and the effects of suface- and deep-level diversity on work group cohesion. *Academy of Management Journal, 41*, 96-107.

Henry, B., Moffitt, T. E., Caspi, A., Langley, J., & Silva, P. A. (1994). On the "remembrance of things past": A longitudinal evaluation of the retrospective method. *Psychological Assessment, 6*, 92-101.

Hershcovis, M. S., Turner, N., Barling, J., Arnold, K. A., DuprÃ©, K. E., Inness, M., et al. (2007). Predicting workplace aggression: A meta-analysis. *Journal of Applied Psychology, 92*, 228-238.

Hoel, H., Rayner, C., & Cooper, C. L. (2001). Origins of bullying: Theoretical frameworks for explaining workplace bullying. In N. Tehrani (Ed.), *Building a culture of respect: Managing bullying at work* (pp. 3-19). London: Taylor & Francis.

Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Beverly Hills, CA: Sage.

Holmes-Smith, P. (2010). Structural equation modeling: From fundamentals to advanced topics. School of Research Evaluation and Measurement Services.

Homant, R. J., & Kennedy, D. B. (2003). Hostile attribution in perceived justification of wokrplace aggression. *Psychological Reports 92*, 185-194.

Hoobler, J. M., & Brass, D. J. (2006). Abusive supervision and family undermining as displaced aggression. *Journal of Applied Psychology, 91*, 1125-1133.

Hotaling, G. T., Straus, M. A., & Lincoln, A. J. (1988). Violence and other crime outside the family. In M. Tonry & L. Ohlin (Eds.), *Crime and justice. An annual review of research* Chicago, IL: University of Chicago Press

Hotaling, G. T., & Sugarman, D. B. (1986). An analysis of risk markers in husband to wife violence: The current state of knowledge *Violence and Victims, 1*, 101-124.

House, R. J., Shane, S. A., & Herold, D. M. (1996). Rumors of the death of dispositional research are vastly exaggerated *Academy of Management Review, 21*, 203-224.

Huesmann, L. R. (1986). Psychological processes promoting the relation between exposure to media violence and aggressive behavior by the viewer. *Journal of Social Issues, 42*, 125-139.

Huesmann, L. R. (1988). An information processing model for the development of aggression. *Aggressive Behavior, 14*, 13-24.

Huesmann, L. R., & Guerra, N. G. (1997). Children's normative beliefs about aggression and aggressive behavior. *Journal of Personality and Social Psychology, 72*, 408-419.

Inness, M., Barling, J., & Turner, N. (2005). Understanding supervisor-targeted aggression: A within-person, between-jobs design. *Journal of Applied Psychology, 90*, 731-739.

James, L. R. (1998). Measurement of personality via conditional reasoning. *Organizational Research Methods 1*, 131-163.

James, L. R., & McIntyre, M. D. (2000). *Conditional Reasoning Test of Aggression Test Manual* U.S.A.: Innovative Assessment Technology.

James, L. R., McIntyre, M. D., Glisson, C. A., Green, P. D., Patton, T. W., LeBreton, J. M., et al. (2005). A conditional reasoning measure for aggression. *Organizational Research Methods, 8*, 69-99.

John, O. P. (1989). Towards a taxonomy of personality descriptors. In D. M. Buss & N. Cantor (Eds.), *Personality psychology: Recent trends and emerging directions*. New York: Springer-Verlag.

John, O. P., & Srivastava, S. (1999). The Big Five Trait Taxonomy: History, measurement, and theoretical perspectives In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (2nd ed., pp. 102-138). New York The Guilford Press.

Jouriles, E. N., Mehta, P., McDonald, R., & Francis, D. J. (1997). Psychometric properties of family members' reports of parental physical aggression toward clinic-referred children. *Journal of Consulting and Clinical Psychology, 65*, 309-318.

Judge, T. A., Brent, S. A., & Ilies, R. (2006). Hostility, job attitudes, and workplace deviance: Test of a multilevel model. *Journal of Applied Psychology, 91*, 126-138.

Kalmuss, D. (1984). The intergenerational transmission of marital aggression. *Journal of Marriage and the Family, 46*, 11-19.

Keashly, L. (1997). Emotional abuse in the workplace. *Journal of emotional abuse, 1*, 85-117.

Kernsmith, P. (2006). Gender differences in the impact of family of origin violence on perpetrators of domestic violence *Journal of Family Violence 21*, 163-171.

Kiewitz, C., Restubog, S. L. D., Garcia, P. R. J. M., & Tang, R. L. (2010). *The sound of silence: Investigating the interactive effects of assertiveness and climate of fear in the relationship between abusive supervision and defensive silence behavior*. Paper

presented at the annual meeting of the Academy of Management, Montreal, Canada.

Kiazad, K., Restubog, S. L. D., Zagenczyk, T. J., Kiewitz, C., & Tang, R. L. (2010). In pursuit of power: The role of authoritarian leadership in the relationship between supervisors' machiavellianism and subordinates' perceptions of abusive supervisory behavior. *Journal of Research in Personality, 44*, 512-519.

Kiewitz, C., Restubog, S. L. D., Zagencyzk, T. J., Scott, K.D., Garcia, P.R.J.M., & Tang, R. L. (in press). Sins of the parents: The role of self-control in the relationship between supervisors' previous experience of family undermining and subordinates' perceptions of abusive superivsion. *Ledership Quarterly*.

Kross, E., & Ayduk, O. (2008). Facilitating adaptive emotional analysis: Short-term and long-term outcomes distinguishing distanced-analysis of negative emotions from immerssed-analysis and distraction. *Personality and Social Psychology Bulletin, 34*, 924-938.

Kross, E., Davidson, M., Weber, J., & Ochsner, K. (2009). Coping with emotions past: The neural bases of regulating affect associated with negative autobiographical memories. *Biological Psychiatry, 65*, 361-366.

Langhinrichsen-Rohling, J., Hankla, M., & Stormberg, C. D. (2004). The relationship behavior networks of young adults: A test of the intergenerational transmission of violence hypothesis. *Journal of Family Violence, 19*, 139-151.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.

LeBreton, J. M., Barksdale, C. D., Robin, J., & James, L. R. (2007). Measurement issues associated with conditional reasoning tests: Indirect measurement and test faking. *Journal of Applied Psychology, 92*, 1-16.

Lindsay, J. J., & Anderson, C. A. (2000). From antecedent conditions to violent actions: A general affective aggression model. *Personality and Social Psychology Bulletin, 26*, 533-547.

Lindsay, R. M., & Ehrenberg, A. S. C. (1993). The design of replicated studies. *The American Statistician, 47*, 217-228.

Little, T. D., Cunningham, W. A., & Shahar, G. (2002). To parcel or not to parcel: exploring the question, weighing the merits. *Structural Equation Modeling, 9*, 151-173.

Liu, D., Liao, H., & Loi, R. (in press). The dark side of leadership: A three-level investigation of the cascading effect of abusive supervision on employee creativity. *Academy of Management Journal.*

Liu, J., Kwan, H. K., Wu, L. Z., & Wu, W. (2010). Abusive supervision and subordinate supervisor-directed deviance: The moderating role of traditional values and the mediating role of revenge cognitions. *Journal of Occupational and Organizational Psychology, 83, 835-856.*

Loeber, R., & Hay, D. (1997). Key issues in the development of aggression and violence from childhood to early adulthood. *Annual Review of Psychology, 48*, 371-410.

Lykken, D. T. (1968). Statistical significance in psychological research *Psychological Bulletin, 70*, 151-159.

Lyubomirsky, S., & Nolen-Hoeksema, S. (1995). Effects of self-focused rumination on negative thinking and interpersonal problem solving. *Journal of Personality and Social Psychology, 69*, 176-190.

Maccoby, E. E. (1992). The role of parents in the socialization of children: An historical overview. *Developmental Psychology, 28*, 1006-1017.

MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resmapling methods. *Multivariate behavioral research, 39*, 99-128.

Martin, J. (1996). *Miss manners rescues civilization* New York: Crown Publishers

Matthews, B. A., & Norris, F. H. (2002). When is believing "seeing"? Hostile attribution bias as a function of self-reported aggression. *Journal of Applied Social Psychology, 32*, 1-31.

McClelland, D. C. (1985). How motives, skills, and values determine what people do. *American Psychologist, 40*, 812-825.

McClelland, D. C., Koestner, R., & Weinberger, J. (1989). How do self-attributed and implicit motives differ? *Psychological Review, 96*, 690-702.

McCrae, R. R., & John, O. P. (1992). An introduction to the five-factor model and its applications. *Journal of Personality, 60*, 175-215.

McFarlin, D.B. & Sweeney, P.D. (2000). *Where egos dare: The untold truth about Narcissistic Leaders – and how to survive them.* London: Kogan Page.

Mihalic, S. W., & Elliott, D. (1997). A social learning theory model of marital violence. *Journal of Family Violence, 12*, 21-47.

Mikulincer, M., & Shaver, P. R. (2005). Attachment theory and emotions in close relationships: Exploring the attachment-related dynamics of emotional reactions to relational events. *Personal Relationships, 12*, 149-168.

Miller, N., Pedersen, W. C., Earleywine, M., & Pollock, V. E. (2003). A theoretical model of triggered displaced aggression. *Personality and Social Psychology Review, 7*, 75-97.

Mitchell, M. S., & Ambrose, M. L. (2007). Abusive supervision and workplace deviance and the moderating effects of negative reciprocity beliefs. *Journal of Applied Psychology, 92*, 1159-1168.

Neider, L. L., & Schriesheim, C. A. (2010). *The 'dark' side of management.* Charlotte, NC: Information Age Publishing, Inc.

Neuman, J. H., & Baron, R. A. (1998). Workplace violence and workplace aggression: Evidence concerning specific forms, potential causes, and preferred targets. *Journal of Management, 24*, 391-419.

Ney, P. G. (1987). Does verbal abuse leave deeper scars: A study of children and parents. *Canadian Journal of Psychiatry, 32*, 371-378.

Nicholas, K. B., & Bieber, S. L. (1997). Assessment of perceived parenting behaviors: The exposure to abusive and supportive environments parenting inventory. *Journal of Family Violence, 12*, 275-291.

Niehoff, B. P., & Moorman, R. H. (1993). Justice as a Mediator of the Relationship between Methods of Monitoring and Organizational Citizenship Behavior. *The Academy of Management Journal, 36*, 527-556.

Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York: McGraw-Hill.

O'Keefe, M. (1998). Factors mediating the link between witnessing interparental violence and dating violence *Journal of Family Violence 13*, 39-57.

O'Leary-Kelly, Griffin, R. W., & Glew, D. J. (1996). Organization-motivated aggression: A research framework. *The Academy of Management Review, 21*, 225-253.

Opotow, S. (1995). Drawing the line: Social categorization, moral exclusion, and the scope of justice. In B. Bunker & J. Rubin (Eds.), *Conflict, cooperation, and justice:*

*Essays inspired by the work of Morton Deutsch* (pp. 347-369). San Francisco: Jossey-Bass.

Opotow, S., & Weiss, L. (2000). Denial and the process of moral exclusion in environmental conflict. *Journal of Social Issues, 56*, 475-490.

Organ, D. W. (1988). *Organizational citizenship behavior: The good soldier syndrome*. Lexington, MA: Lexington Books.

Pedersen, W. C., Denson, T. F., Goss, R. J., Vasquez, E. A., Kelley, N. J., & Miller, N. (2011). The impact of rumination on aggressive thoughts, feelings, arousal, and behaviour. *British Journal of Social Psychology, 50*, 281-301.

Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management, 12*, 531.

Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. . *Behavior Research Methods, Instruments, and Computers, 36*, 717-731.

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40*, 879-891.

Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research, 42*, 185-227.

Prino, C. T., & Peyrot, M. (1994). The effect of child physical abuse and neglect on aggressive, withdrawn, and prosocial behavior. *Child Abuse & Neglect, 18*, 871-884.

Rafferty, A. E., Restubog, S. L. D., & Jimmieson, N. L. (2010). Losing sleep: Examining the cascading effects of supervisors' experience of injustice on subordinates' psychological health. *Work & Stress, 24*, 36-55.

Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods*. Newbury Park, NJ: Sage Publications.

Ray, R., Ochsner, K., Cooper, J., Robertson, E., Gabrieli, J., & Gross, J. (2005). Individual differences in trait rumination and the neural systems supporting cognitive reappraisal. *Cognitive, Affective, & Behavioral Neuroscience, 5*, 156-168.

Reitzel-Jaffe, D., & Wolfe, D. A. (2001). Predictors of relationship abuse among young men. *Journal of Interpersonal Violence, 16*, 99-115.

Restubog, S. L. D., Scott, K. L., & Zagencyzk, T. J. (2011). When distress hits home: The role of contextual factors and psychological distress in predicting employees' responses to abusive supervision. *Journal of Applied Psychology 96*, 713-729.

Richards, D. A., & Hackett, R. D. (in press). Attachment and emotion regulation: Compensatory interactions and leader-member exchange. *The Leadership Quarterly*.

Robinson, S. L., & Bennett, R. J. (1995). A Typology of Deviant Workplace Behaviors: A Multidimensional Scaling Study. *The Academy of Management Journal, 38*, 555-572.

Robinson, S. L., & Wolfe Morrison, E. (2000). The development of psychological contract breach and violation: a longitudinal study. *Journal of Organizational Behavior, 21*, 525-546.

Rosenbaum, A., & O'Leary, K. D. (1981). Marital violence: Characteristics of abusive couples. *Journal of Consulting and Clinical Psychology, 49*, 63-91.

Rospenda, K. (2002). Workplace harassment, services utilization, and drinking outcomes. *Journal of Occupational Health Psychology, 7*, 141-155.

Rushton, J. P., Brainerd, C. J., & Pressley, M. (1983). Behavioral development and construct validity: The principle of aggregation. *Psychological Bulletin, 94*, 18-38.

Rusting, C. L., & Nolen-Hoeksema, S. (1998). Regulating responses to anger: Effects of rumination and distraction on angry mood. *Journal of Personality and Social Psychology, 78*, 913-927.

Salomon, C. M. (1998). Picture this: A safer workplace. *Workforce, 77*, 82-83.

Salzinger, S., Feldman, R. S., Hammer, M., & Rosario, M. (1993). The effects of physical abuse on children's social relationships. *Child Development, 64*, 169-187.

Schat, A. C. H., Frone, M. R., & Kelloway, E. K. (2006). Prevalence of workplace aggression in the U.S. Workforce. In E. K. Kelloway, J. Barling & J. J. Hurrell, Jr. (Eds.), *Handbook of workplace violence* (pp. 47-89). Thousand Oaks, California Sage Publications, Inc.

Schmitt, N. W., & Klimoski, R. J. (1991). *Research methods in human resources management*. Cincinnati: South-Western.

Schultheiss, D. E. P., Kress, H. M., Manzi, A. J., & Glassock, M. J. (2001). Relational influences in career development: A qualitative inquiry. *Counseling psychologist 29*, 214-239.

Schultz, D., Izard, C. E., & Ackerman, B. P. (2000). Children's anger attribution bias: Relations to family environment and social adjustment. *Social Development, 9*(3), 284-301.

Schwarz, N., & Clore, G. L. (1996). Feelings and phenomenal experiences. In E. Higgins & A. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 433-465). New York: Guilford.

Selye, H. (1974). *Stress without distress*. Lippincott: New York.

Smith, J. P., & Williams, J. G. (1992). From abusive household to dating violence. *Journal of Family Violence, 7*, 153-165.

Snyder, C. R., Crowson, J. J., Houston, B. K., Kurylo, M., & Poirier, J. (1997). Assessing Hostile Automatic Thoughts: Development and Validation of the HAT Scale. *Cognitive Therapy and Research, 21*, 477-492.

Spector, P. E. (2006). Method variance in organizational research: Truth or urban legend? *Organizational Research Methods, 9*, 221-232.

Spielberger, C. D., Jacobs, G., Russell, S., & Crane, R. S. (1983). Assessment of anger: The state-trait anger scale. In J. Butcher & C. Spielberger (Eds.), *Advances in personality assesment* (Vol. 2, pp. 159-187). Hillsdale, NJ: Lawrence Erlbaum.

Squire, L. (1989). On the course of forgetting very long-term memory. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 15*, 241-245.

Straus, M., Gelles, R., & Steinmetz, S. (1980). *Behind closed doors*. New York Anchor Books.

Straus, M. A. (1979). Measuring intrafamily conflict and violence: The conflict tactics (CT) scales. *Journal of Marriage and the Family, 41*, 75-88.

Straus, M. A. (1990). The conflict tactics scales and its critics: An evaluation and new data on validity and reliability. In M. A. Straus & R. J. Gelles (Eds.), *Physical violence in american societies: Risk facotrs and adaptations to violence in 8,145 families* (pp. 49-73). New Brunswick: Transaction Publications.

Stucke, T. S., & Baumeister, R. F. (2006). Ego depletion and aggressive behavior: Is the inhibition of aggression a limited resource? *European Journal of Social Psychology, 36*, 1-13.

Sukhodolsky, D. G., Golub, A., & Cromwell, E. N. (2001). Development and validation of the anger rumination scale. *Personality and Individual Differences, 31*, 689-700.

Tanaka, J. S. (1987). "How Big Is Big Enough?": Sample Size and Goodness of Fit in Structural Equation Models with Latent Variables. *Child Development, 58*, 134-146.

Teicher, M. H., Samson, J. A., Polcari, A., & McGreenery, C. E. (2006). Sticks, stones, and hurtful words: Relative effects of various forms of childhood maltreatment. *American Journal of Psychiatry, 163*, 993-1000.

Tepper, B. J. (2000). Consequences of abusive supervision. *Academy of Management Journal, 43*, 178-190.

Tepper, B. J. (2007). Abusive supervision in work organizations: Review synthesis, and research agenda. *Journal of Management, 33*, 261-289.

Tepper, B. J., Carr, J. C., Breaux, D. M., Geider, S., Changya, H., & Hua, W. (2009). Abusive supervision, intentions to quit, and employees' workplace deviance: A power/dependence analysis. *Organizational Behavior and Human Decision Processes, 109*, 156-167.

Tepper, B. J., Duffy, M. K., Henle, C. A., & Lambert, L. S. (2006). Procedural injustice, victim precipitation, and abusive supervision. *Personnel Psychology, 59*, 101-123.

Tepper, B. J., Duffy, M. K., & Shaw, J. D. (2001). Personality moderators of the relationship between abusive supervision and subordinates' resistance. *Journal of Applied Psychology, 86*, 974-983.

Tepper, B. J., Henle, C. A., Lambert, L. S., Giacalone, R. A., & Duffy, M. K. (2008). Abusive supervision and subordinates' organization deviance. *Journal of Applied Psychology, 93*, 721-732.

Tepper, B. J., Moss, S. E., & Duffy, M. K. (2011). Predictors of abusive supervision: supervisor perceptions of deep-level dissimilarity, relationship conflict, and subordinate performance. *Academy of Management Journal, 54*, 279-294.

Thau, S., & Mitchell, M. S. (2006). How self-goals moderate the relationship between abusive supervision and retaliation: A model of self-defeating behaviors. Unpublished manuscript.

Todorov, A., & Bargh, J. A. (2002). Automatic sources of aggression. *Aggression and Violent Behavior, 7*, 53-68.

Tremblay, R. E., Japel, C., Perusse, D., McDuff, P., Boivin, M., Zoccolillo, M., et al. (1999). The search for the age of 'onset' of physical aggression: Rousseau and Bandura revisited. *Criminal Behaviour and Mental Health, 9*, 8-23.

Tyson, P. D. (1998). Physiological arousal, reactive aggression, and the induction of an incompatible relaxation response. *Aggression and violent behavior, 3*, 143-158.

Verona, E. (2005). Moderating effects of rumination and gender on context-specific aggression. *Aggressive Behavior, 31*, 420-436.

Vondracek, F. W. (2007). Introduction and commentary: Studies of development in context. *Journal of vocational behavior, 70*, 1-7.

Weiner, B. (1986). *An attributional theory of motivation and emotion*. New York: Springer.

Westen, D. (1991). Social cognition and object relations. *Psychological Bulletin, 109*, 429-455.

Widom, C. (1989). The cycle of violence. *Science, 244*, 160-166.

Widom, C. S., & Shepard, R. L. (1996). Accuracy of adult recollections of childhood victimization: Part 1. childhood physical abuse. *Psychological Assessment, 8*, 412-421.

Wilkowski, B. M., & Robinson, M. D. (2008). The cognitive basis of trait anger and reactive aggression: An integrative analysis. *Personality and Social Psychology Review, 12*, 3-21.

Williams, L. J., Vandeberg, R. J., & Edwards, J. R. (2009). Structural equation modeling in management research: A guide for improved analysis. *Academy of Management Annals, 3*, 543-604.

Wolf, K. A., & Foshee, V. A. (2003). Family violence, anger expression styles, and adolescent dating violence. *Journal of Family Violence, 18*, 309-316.

Yagil, D. (2006). The relationship of abusive and supportive workplace supervision to employee burnout and upward influence tactics. *Journal of Emotional Abuse, 6*, 49-65.

Yagil, D., Ben-Zur, H., & Tamir, I. (2011). Do employees cope effectively with abusive supervision at work? An exploratory study. *International Journal of Stress Management, 18*, 5-23.

Yukl, G. A. (1998). *Leadership in organizations* (4th ed.). Englewood Cliffs, New Jersey Prentice Hall.

Zellars, K. L., Tepper, B. J., & Duffy, M. K. (2002). Abusive supervision and subordinates' organizational citizenship behavior. *Journal of Applied Psychology, 87*, 1068-1076.

Zelli, A., Huesmann, L. R., & Cervone, D. (1995). Social inference and individual differences in aggression: Evidence for spontaneous judgments of hostility. *Aggressive Behavior, 21*, 405-417.

Zillman, D., Katcher, A. H., & Milavsky, B. (1972). Excitation transfer from physical exercise to subsequent aggressive behavior. *Journal of Experimental Social Psychology, 8*, 247-259.

# Appendix A

## Participant Information Sheets and Consent Forms

Appendix A.1 Parent information sheet and consent form (Study 1)

Appendix A.2 Student information sheet and consent form (Study 1)

Appendix A.3 Supervisor information sheet and consent form (Studies 2, 3, 4, and 5)

Appendix A.4 Subordinate information sheet and consent form (Studies 2, 3, 4, and 5)

Appendix A.5 Parent information sheet and consent form (Study 5)

## Appendix A.1: Parent Information Sheet and Consent Form (Study 1)

## PARTICIPANT INFORMATION STATEMENT AND CONSENT FORM

Students' Family Environment, Personality, and the University Experience (Parent – Study 1)

**The purpose of the study**

My name is Patrick Raymund James M. Garcia and I am currently pursuing a Doctor of Philosophy in Business at the Australian National University, Australia. I am under the supervision of Dr. Simon Lloyd Restubog. You are invited to participate in a study of how previous family environment and personality are related to your son's/daughter's university experience. We hope to develop a better understanding of your son's/daughter's experiences in the university context for the purpose of helping students manage educational-related problems and concerns in order to make university life productive, enjoyable, and less stressful. You are selected as a possible participant in this study because you are the parent/guardian of the student who gave you this form.

**What is involved?**

If you decide to participate, you will be asked to answer a survey questionnaire which consists of demographic questions and several rating scales. This survey will be used to understand your son's/daughter's family environment, thoughts, feelings, and level of adjustment as a student. It will take 3-5 minutes to complete. After you have finished, please detach the first page of the Parent Rating Questionnaire (Page 1) and place pages 2 and 3 in the paid postage envelope provided together with the signed consent form, seal it and sign across the flap.

**Confidentiality and disclosure of information**

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission, except as required by law. If you give us your permission by signing this document, we plan to publish the results in academic journals and present it in academic conferences. Please note that all information you provide is strictly confidential. In any publication, information will be provided in such a way that you cannot be identified.

Complaints may be directed to the Ethics Secretariat, Human Research Ethics Committee, Research Office, Chancelry 10B, The Australian National University, ACT 0200, Australia (02-6125-7945 or human.ethics.officer@anu.edu.au). Any complaint you make will be investigated promptly and you will be informed of the outcome.

**Feedback**

If you are interested, a summary of research findings will be made available to you by contacting the researchers using the contact details at the bottom of this letter.

**Your consent**

Your decision whether or not to participate will not prejudice your future relations with the Australian National University. Moreover, your participation will not, in any way affect your son's/daughter's performance or assessment in school. If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time without prejudice.

If you have any questions, please feel free to ask us. If you have any additional questions later, I (patrick.garcia@anu.edu.au) or Dr. Simon Restubog (simon.restubog@anu.edu.au) will be happy to answer them.

You will be given a copy of this form to keep.

THE AUSTRALIAN NATIONAL UNIVERSITY

## PARTICIPANT INFORMATION STATEMENT AND CONSENT FORM (continued)

Students' Family Environment, Personality, and the University Experience (Parent – Study 1)

I, _____, consent to taking part in the study above. I understand that my participation is completely voluntary, and that I may withdraw from the study at any time without penalty. The objectives and procedures of the project have been explained to me and I understand them. I understand that it is sometimes essential for the validity of research results not to reveal the true purpose of the research to participants. If this occurs, I understand that I will be debriefed as soon as is practicable after my participation and, at that time, given the opportunity to withdraw from the research and have records of my participation erased. I have been advised that the results of the project may be published but that my personal details will remain confidential. I voluntarily consent to participate, but I understand that I may withdraw from the study at anytime.

Name of Participant: _____ Signature: _____ Date:_____

(to be printed)

## Appendix A.2: Student Information Sheet and Consent Form (Study 1)

## PARTICIPANT INFORMATION STATEMENT AND CONSENT FORM

Students' Family Environment, Personality, and the University Experience (Student – Study 1)

**The purpose of the study**

My name is Patrick Raymund James M. Garcia and I am currently pursuing a Doctor of Philosophy in Business at the Australian National University, Australia. I am under the supervision of Dr. Simon Lloyd Restubog. You are invited to participate in a study of how previous family environment and personality are related to your current experiences as a student. We hope to develop a better understanding of your experiences in the university context for the purpose of helping students manage educational-related problems and concerns in order to make university life productive, enjoyable, and less stressful. You are selected as a possible participant in this study because you are currently enrolled as an undergraduate student.

**What is involved?**

If you decide to participate, you will be asked to complete a series of questionnaires which consists of demographic questions, a word completion task, an inductive reasoning test, and several rating scales. This survey will be used to understand your family environment, thoughts, feelings, and level of adjustment as a student. It will take 20-30 minutes to complete. After you have finished, you will also be requested to pass on a rating scale to one of your parents/guardian for completion. The purpose of the parent's rating scale is to examine another viewpoint of your experiences as you were growing up within your family. This survey will take 3-5 minutes to complete and will be collected the following week, sealed using the envelope provided.

**Confidentiality and disclosure of information**

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission, except as required by law. If you give us your permission by signing this document, we plan to publish the results in academic journals and present it in academic conferences. Please note that all information you provide is strictly confidential. In any publication, information will be provided in such a way that you cannot be identified.

Complaints may be directed to the Ethics Secretariat, Human Research Ethics Committee, Research Office, Chancelry 10B, The Australian National University, ACT 0200, Australia (02-6125-7945 or human.ethics.officer@anu.edu.au). Any complaint you make will be investigated promptly and you will be informed of the outcome.

**Feedback**

If you are interested, a summary of research findings will be made available to you by contacting the researchers using the contact details at the bottom of this letter.

**Your consent**

Your decision whether or not to participate will not prejudice your future relations with the Australian National University. If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time without prejudice.

If you have any questions, please feel free to ask us. If you have any additional questions later, I (patrick.garcia@anu.edu.au) or Dr. Simon Restubog (simon.restubog@anu.edu.au) will be happy to answer them.

You will be given a copy of this form to keep.

THE AUSTRALIAN NATIONAL UNIVERSITY

## PARTICIPANT INFORMATION STATEMENT AND CONSENT FORM (continued)

Students' Family Environment, Personality, and the University Experience (Student – Study 1)

I, _____, consent to taking part in the study above. I understand that my participation is completely voluntary, and that I may withdraw from the study at any time without penalty. The objectives and procedures of the project have been explained to me and I understand them. I understand that it is sometimes essential for the validity of research results not to reveal the true purpose of the research to participants. If this occurs, I understand that I will be debriefed as soon as is practicable after my participation and, at that time, given the opportunity to withdraw from the research and have records of my participation erased. I have been advised that the results of the project may be published but that my personal details will remain confidential. I voluntarily consent to participate, but I understand that I may withdraw from the study at anytime.

Name of Participant: _____ Signature: _____ Date:_____

(to be printed)

## Appendix A.3: Supervisor Information Sheet and Consent Form (Studies 2, 3, 4, and 5)

## PARTICIPANT INFORMATION STATEMENT AND CONSENT FORM

Supervisor-subordinate Relationship Quality (Supervisor)

**The purpose of the study**

My name is Patrick Raymund James M. Garcia and I am currently pursuing a Doctor of Philosophy in Business at the Australian National University, Australia. I am under the supervision of Dr. Simon Lloyd Restubog. You are invited to participate in a study of how supervisor-subordinate relationships affect your thoughts, feelings, and behaviours at work. We hope to develop a better understanding of your experiences in the workplace for the purpose of helping employees manage work-related problems and concerns in order to make work life productive, enjoyable, and less stressful. You are selected as a possible participant in this study because you were identified as a supervisor in the organisation.

**What is involved?**

If you decide to participate, you will be asked to complete a series of questionnaires which consists of demographic questions and several rating scales. This survey will be used to understand your experiences in the workplace, as well as while you were growing up. It will take 20-30 minutes to complete.

**Confidentiality and disclosure of information**

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission, except as required by law. If you give us your permission by signing this document, we plan to publish the results in academic journals and present it in academic conferences. Please note that all information you provide is strictly confidential. In any publication, information will be provided in such a way that you cannot be identified.

Complaints may be directed to the Ethics Secretariat, Human Research Ethics Committee, Research Office, Chancelry 10B, The Australian National University, ACT 0200, Australia (02-6125-7945 or human.ethics.officer@anu.edu.au). Any complaint you make will be investigated promptly and you will be informed of the outcome.

**Feedback**

If you are interested, a summary of research findings will be made available to you by contacting the researchers using the contact details at the bottom of this letter.

**Your consent**

Your decision whether or not to participate will not prejudice your future relations with the Australian National University. If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time without prejudice.

If you have any questions, please feel free to ask us. If you have any additional questions later, I (patrick.garcia@anu.edu.au) or Dr. Simon Restubog (simon.restubog@anu.edu.au) will be happy to answer them.

You will be given a copy of this form to keep.

THE AUSTRALIAN NATIONAL UNIVERSITY

## PARTICIPANT INFORMATION STATEMENT AND CONSENT FORM (continued)

Supervisor-subordinate Relationship Quality (Supervisor)

I, _____, consent to taking part in the study above. I understand that my participation is completely voluntary, and that I may withdraw from the study at any time without penalty. The objectives and procedures of the project have been explained to me and I understand them. I understand that it is sometimes essential for the validity of research results not to reveal the true purpose of the research to participants. If this occurs, I understand that I will be debriefed as soon as is practicable after my participation and, at that time, given the opportunity to withdraw from the research and have records of my participation erased. I have been advised that the results of the project may be published but that my personal details will remain confidential. I voluntarily consent to participate, but I understand that I may withdraw from the study at anytime.

Name of Participant: _____ Signature: _____ Date:_____

(to be printed)

## Appendix A.4: Subordinate Information Sheet and Consent Form (Studies 2, 3, 4, and 5)

### PARTICIPANT INFORMATION STATEMENT AND CONSENT FORM

Supervisor-employee Relationship Quality (Subordinate)

**The purpose of the study**

My name is Patrick Raymund James M. Garcia and I am currently pursuing a Doctor of Philosophy in Business at the Australian National University, Australia. I am under the supervision of Dr. Simon Lloyd Restubog. You are invited to participate in a study of how supervisor-subordinate relationships affect your thoughts, feelings, and behaviours at work. We hope to develop a better understanding of your experiences in the workplace for the purpose of helping employees manage work-related problems and concerns in order to make work life productive, enjoyable, and less stressful. You are selected as a possible participant in this study because you were identified as an employee in the organisation.

**What is involved?**

If you decide to participate, you will be asked to answer a survey packet which consists of demographic questions, and several rating scales. This survey will be used to understand your experiences in the workplace. The survey will take 15-20 minutes to complete.

**Confidentiality and disclosure of information**

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission, except as required by law. If you give us your permission by signing this document, we plan to publish the results in academic journals and present it in academic conferences. Please note that all information you provide is strictly confidential. In any publication, information will be provided in such a way that you cannot be identified.

Complaints may be directed to the Ethics Secretariat, Human Research Ethics Committee, Research Office, Chancelry 10B, The Australian National University, ACT 0200, Australia (02-6125-7945 or human.ethics.officer@anu.edu.au). Any complaint you make will be investigated promptly and you will be informed of the outcome.

**Feedback**

If you are interested, a summary of research findings will be made available to you by contacting the researchers using the contact details at the bottom of this letter.

**Your consent**

Your decision whether or not to participate will not prejudice your future relations with the Australian National University. If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time without prejudice.

If you have any questions, please feel free to ask us. If you have any additional questions later, I (patrick.garcia@anu.edu.au) or Dr. Simon Restubog (simon.restubog@anu.edu.au) will be happy to answer them.

You will be given a copy of this form to keep.

THE AUSTRALIAN NATIONAL UNIVERSITY

## PARTICIPANT INFORMATION STATEMENT AND CONSENT FORM (continued)

Supervisor-employee Relationship Quality (Subordinate)

I, _____, consent to taking part in the study above. I understand that my participation is completely voluntary, and that I may withdraw from the study at any time without penalty. The objectives and procedures of the project have been explained to me and I understand them. I understand that it is sometimes essential for the validity of research results not to reveal the true purpose of the research to participants. If this occurs, I understand that I will be debriefed as soon as is practicable after my participation and, at that time, given the opportunity to withdraw from the research and have records of my participation erased. I have been advised that the results of the project may be published but that my personal details will remain confidential. I voluntarily consent to participate, but I understand that I may withdraw from the study at anytime.

Name of Participant: _____ Signature: _____ Date:_____

(to be printed)

# Appendix B

## Materials for Study 1

Appendix B.1 Student demographic questions

Appendix B.2 Parent demographic questions

Appendix B.3 History of family aggression items

Appendix B.4 Hostile cognitions items

Appendix B.5 Hostile affect items

Appendix B.1

Student demographic questions

01. What is your gender (please encircle)? 1 Male 2 Female

02. What is your age (as of your last birthday)?_____

03. What is your degree program? _____

04. What is your ethnicity: (please encircle one)
a. Filipino b. Filipino-Chinese c. Filipino-Indian d. Chinese e. Indian
f.Korean g. American h. Others (please specify): _____

05 What is your CGPA (Cumulative Grade Point Average)? If unsure, just provide an estimate: _____

06. What is your GPA as of the last trimester? If unsure, just provide an estimate: _____

07. How many trimesters have you been enrolled in your university (include this term)? _____ term

Appendix B.2

Parent demographic questions

01. Gender (please encircle): 1 Male 2 Female

02. Age (please encircle):

| | | |
|---|---|---|
| 1 20 years and under | 2 21-25 years | 3 26-30 years |
| 4 31-35 years | 5 36-40 years | 6 41-45 years |
| 7 46-50 years | 8 Over 50 years | |

03. How long have you been living with this person (please encircle)?

| | | |
|---|---|---|
| 1 less than 1 year | 2 1-5 years | 3 6-10 years |
| 4 11-15 years | 5 16-20 years | 6 21-25 years |
| 7 26-30 years | 8 Over 30 years | |

04. What is your relationship with this person? (please encircle)

1 Father 2 Mother 3 Legal guardian, please specify:_____

Appendix B.3

History of family aggression items

| | |
|---|---|
| *Item 1* | I argued heatedly with my spouse but short of yelling. |
| *Item 2* | I yelled at my spouse. |
| *Item 3* | I insulted my spouse. |
| *Item 4* | I sulked and/or refused to talk about it. |
| *Item 5* | I stomped out of the room. |
| *Item 6* | I threw something (but not towards my spouse) or smashed something. |
| *Item 7* | I threatened to hit or throw something towards my spouse. |
| *Item 8* | I threw something at my spouse. |
| *Item 9* | I pushed, grabbed, or shoved my spouse. |
| *Item 10* | I hit (or tried to hit) my spouse but not with something. |
| *Item 11* | I hit (or tried to hit) my spouse with something hard. |

Appendix B.4

Hostile cognitions items

| | |
|---|---|
| *Item 1* | In general, it is wrong to hit other people. |
| *Item 2* | If you're angry, it is okay to say mean things to other people. |
| *Item 3* | It is usually okay to yell at others and say bad things. |
| *Item 4* | It is usually okay to push or shove other people around if you're mad. |
| *Item 5* | It is wrong to insult other people. |
| *Item 6* | It is wrong to take it out on others by saying mean things when you're mad. |
| *Item 7* | It is generally wrong to get into physical fights with others. |
| *Item 8* | In general, it is okay to take your anger out on others by using physical force. |

Appendix B.5

Hostile affect items

| | |
|---|---|
| *Item 1* | I feel furious. |
| *Item 2* | I feel aggravated. |
| *Item 3* | I feel stormy. |
| *Item 4* | I feel discontented. |
| *Item 5* | I feel like banging on a table. |
| *Item 6* | I feel irritated. |
| *Item 7* | I feel outraged. |
| *Item 8* | I feel angry. |
| *Item 9* | I feel offended. |
| *Item 10* | I feel like I'm about to explode. |
| *Item 11* | I feel mad. |
| *Item 12* | I feel mean. |
| *Item 13* | I feel bitter. |
| *Item 14* | I feel burned up. |
| *Item 15* | I feel like yelling at somebody. |
| *Item 16* | I feel like swearing. |
| *Item 17* | I feel cruel. |
| *Item 18* | I feel disagreeable |
| *Item 19* | I feel enraged. |

# Appendix C

## Materials for Study 2

Appendix C.1

Supervisor demographic questions

01. Gender (please encircle): 1 Male 2 Female

02. Age (as of last birthday): _____

03. How long have you been working with your current organization (please encircle)?

| | | |
|---|---|---|
| 1 less than 1 year | 2 1-5 years | 3 6-10 years |
| 4 11-15 years | 5 16-20 years | 6 21-25 years |
| 7 26-30 years | 8 Over 30 years | |

04. What level of management do you belong?

1 Lower 2 Middle 3 Upper

05. Your job type (please encircle);

| | | |
|---|---|---|
| 1 accounting/finance | 2 customer service | 3 legal |
| 4 general management | 5 human resources | |
| 6 manufacturing/production | 7 marketing | 8 public relations |
| 9 information technology | 10 research and development | |
| 11 sales | 12 others: _____ | |

Appendix C.2

Subordinate demographic questions

01. Gender (please encircle): 1 Male 2 Female

02. Age (as of last birthday): _____

03. How long have you been working with your current organization (please encircle)?

1 less than 1 year 2 1-5 years 3 6-10 years
4 11-15 years 5 16-20 years 6 21-25 years
7 26-30 years 8 Over 30 years

04. How long have you been working with this person? _____ years _____ months

05. Please indicate your current employment status (please encircle):

1 permanent/regular 2 probationary 3 contractual 4 casual

06. Your job type (please encircle);

1 accounting/finance 2 customer service 3 legal
4 general management 5 human resources
6 manufacturing/production 7 marketing 8 public relations
9 information technology 10 research and development
11 sales 12 others: _____

Appendix C.3

History of family aggression

| | |
|---|---|
| *Item 1* | One of my parents argued heatedly with the other but short of yelling. |
| *Item 2* | One of my parents yelled at the other. |
| *Item 3* | One of my parents insulted the other. |
| *Item 4* | One of my parents sulked and/or refused to talk about it. |
| *Item 5* | One of my parents stomped out of the room. |
| *Item 6* | One of my parents threw something (but not towards the other) or smashed something. |
| *Item 7* | One of my parents threatened to hit or throw something towards the other. |
| *Item 8* | One of my parents threw something at the other. |
| *Item 9* | One of my parents pushed, grabbed, or shoved the other. |
| *Item 10* | One of my parents hit (or tried to hit) the other but not with something. |
| *Item 11* | One of my parents hit (or tried to hit) the other with something hard. |

Appendix C.4

Hostile cognitions items

| | |
|---|---|
| *Item 1* | In general, it is wrong to hit other people. |
| *Item 2* | If you're angry, it is okay to say mean things to other people. |
| *Item 3* | It is usually okay to yell at others and say bad things. |
| *Item 4* | It is usually okay to push or shove other people around if you're mad. |
| *Item 5* | It is wrong to insult other people. |
| *Item 6* | It is wrong to take it out on others by saying mean things when you're mad. |
| *Item 7* | It is generally wrong to get into physical fights with others. |
| *Item 8* | In general, it is okay to take your anger out on others by using physical force. |

Appendix C.5

Hostile affect items

| | |
|---|---|
| *Item 1* | I feel furious. |
| *Item 2* | I feel aggravated. |
| *Item 3* | I feel stormy. |
| *Item 4* | I feel discontented. |
| *Item 5* | I feel like banging on a table. |
| *Item 6* | I feel irritated. |
| *Item 7* | I feel outraged. |
| *Item 8* | I feel angry. |
| *Item 9* | I feel offended. |
| *Item 10* | I feel like I'm about to explode. |
| *Item 11* | I feel mad. |
| *Item 12* | I feel mean. |
| *Item 13* | I feel bitter. |
| *Item 14* | I feel burned up. |
| *Item 15* | I feel like yelling at somebody. |
| *Item 16* | I feel like swearing. |
| *Item 17* | I feel cruel. |
| *Item 18* | I feel disagreeable |
| *Item 19* | I feel enraged. |

Appendix C.6

Abusive supervision items

| | |
|---|---|
| *Item 1* | Ridicules me |
| *Item 2* | Tells me my thoughts or feelings are stupid |
| *Item 3* | Gives me the silent treatment |
| *Item 4* | Puts me down in front of others |
| *Item 5* | Invades my privacy |
| *Item 6* | Reminds me of my past mistakes and failures |
| *Item 7* | Doesn't give me credit for a job requiring a lot of effort |
| *Item 8* | Blames me to save himself/herself embarrassment |
| *Item 9* | Breaks promises he/she makes |
| *Item 10* | Expresses anger at me when he/she is mad for another reason |
| *Item 11* | Makes negative comments about me to others |
| *Item 12* | Is rude to me |
| *Item 13* | Does not allow me to interact with my co-workers |
| *Item 14* | Tells me I'm incompetent |
| *Item 15* | Lies to me |

# Appendix D

## Materials for Study 3

Appendix D.1 Supervisor demographic questions

Appendix D.2 Subordinate demographic questions

Appendix D.3 History of family aggression items

Appendix D.4 Word completion task

Appendix D.5 Hostile affect items

Appendix D. 6 Neuroticism items

Appendix D.7 Abusive supervision items

Appendix D.1

Supervisor demographic questions

01. Gender (please encircle): 1 Male 2 Female

02. Age (as of last birthday): _____

03. How long have you been working with your current organization (please encircle)?

1 less than 1 year 2 1-5 years 3 6-10 years
4 11-15 years 5 16-20 years 6 21-25 years
7 26-30 years 8 Over 30 years

04. What level of management do you belong?

1 Lower 2 Middle 3 Upper

05. Your job type (please encircle);

1 accounting/finance 2 customer service 3 legal
4 general management 5 human resources
6 manufacturing/production 7 marketing 8 public relations
9 information technology 10 research and development
11 sales 12 others: _____

Appendix D.2

Subordinate demographic questions

01. Gender (please encircle): 1 Male 2 Female

02. Age (as of last birthday): _____

03. How long have you been working with your current organization (please encircle)?

1 less than 1 year 2 1-5 years 3 6-10 years
4 11-15 years 5 16-20 years 6 21-25 years
7 26-30 years 8 Over 30 years

04. How long have you been working with this person? _____ years _____ months

05. Please indicate your current employment status (please encircle):

1 permanent/regular 2 probationary 3 contractual 4 casual

06. Your job type (please encircle);

1 accounting/finance 2 customer service 3 legal
4 general management 5 human resources
6 manufacturing/production 7 marketing 8 public relations
9 information technology 10 research and development
11 sales 12 others: _____

Appendix D.3

History of family aggression

| | |
|---|---|
| *Item 1* | One of my parents argued heatedly with the other but short of yelling. |
| *Item 2* | One of my parents yelled at the other. |
| *Item 3* | One of my parents insulted the other. |
| *Item 4* | One of my parents sulked and/or refused to talk about it. |
| *Item 5* | One of my parents stomped out of the room. |
| *Item 6* | One of my parents threw something (but not towards the other) or smashed something. |
| *Item 7* | One of my parents threatened to hit or throw something towards the other. |
| *Item 8* | One of my parents threw something at the other. |
| *Item 9* | One of my parents pushed, grabbed, or shoved the other. |
| *Item 10* | One of my parents hit (or tried to hit) the other but not with something. |
| *Item 11* | One of my parents hit (or tried to hit) the other with something hard. |

Appendix D.4

Word completion task

1. b_h___
2. in__re
3. ex_e__
4. mu__er
5. pr__e
6. spea_
7. fli__er
8. expl__e
9. w__m
10. ki__
11. t_p_
12. h_r_
13. a_t_r
14. cho_e
15. s_mp__
16. att_c_
17. c_mp__t
18. des____
19. sh_l_
20. sho_t
21. r_p__t
22. str__e
23. l__e
24. b_rn
25. st_r_o
26. p__son
27. p_st_r
28. m__gle
29. bl_nd
30. sn_re
31. b_e
32. h_t
33. g__pe
34. sm_ck
35. sm__e
36. kn___
37. t_ne
38. s__b
39. sh_r_
40. dr__n
41. p__ne
42. ang__
43. fl__t
44. fi__t
45. p_ck
46. ha_e
47. a_t
48. c_t
49. w_n
50. a_e
51. _ry
52. wa_

53. f_m_
54. sl_p
55. b__k
56. r_pe
57. fo_e_t
58. off___
59. l__on
60. cr__l
61. c_e_te
62. st_r_y
63. m_tc_
64. f_r__
65. t__te
66. n__t_
67. w__d_w
68. w__ked
69. vis__n
70. en_age
71. scr__n
72. h_tr_d
73. t_l_ph___
74. dis__s_ed
75. c_nt__l
76. prov__e
77. p_nb_ll
78. out___e
79. c_ll
80. r_de
81. m_n_ge
82. ins___
83. s_d_
84. b__t
85. br__ze
86. rev__t
87. coo_
88. s__y
89. d__r
90. sm_ck
91. fr__t
92. _unch
93. sh_re
94. a_use
95. cl__r
96. h_nt
97. w_t_r
98. s_ash

Appendix D.5

Hostile affect items

| | |
|---|---|
| *Item 1* | I feel furious. |
| *Item 2* | I feel aggravated. |
| *Item 3* | I feel stormy. |
| *Item 4* | I feel discontented. |
| *Item 5* | I feel like banging on a table. |
| *Item 6* | I feel irritated. |
| *Item 7* | I feel outraged. |
| *Item 8* | I feel angry. |
| *Item 9* | I feel offended. |
| *Item 10* | I feel like I'm about to explode. |
| *Item 11* | I feel mad. |
| *Item 12* | I feel mean. |
| *Item 13* | I feel bitter. |
| *Item 14* | I feel burned up. |
| *Item 15* | I feel like yelling at somebody. |
| *Item 16* | I feel like swearing. |
| *Item 17* | I feel cruel. |
| *Item 18* | I feel disagreeable |
| *Item 19* | I feel enraged. |

Appendix D.6

Neuroticism items

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| angry | 1 | 2 | 3 | 4 | 5 | 6 | 7 | calm |
| tense | 1 | 2 | 3 | 4 | 5 | 6 | 7 | relaxed |
| nervous | 1 | 2 | 3 | 4 | 5 | 6 | 7 | at ease |
| envious | 1 | 2 | 3 | 4 | 5 | 6 | 7 | not envious |
| unstable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | stable |
| discontented | 1 | 2 | 3 | 4 | 5 | 6 | 7 | contented |
| emotional | 1 | 2 | 3 | 4 | 5 | 6 | 7 | unemotional |

Appendix D.7

Abusive supervision items

| | |
|---|---|
| *Item 1* | Ridicules me |
| *Item 2* | Tells me my thoughts or feelings are stupid |
| *Item 3* | Gives me the silent treatment |
| *Item 4* | Puts me down in front of others |
| *Item 5* | Invades my privacy |
| *Item 6* | Reminds me of my past mistakes and failures |
| *Item 7* | Doesn't give me credit for a job requiring a lot of effort |
| *Item 8* | Blames me to save himself/herself embarrassment |
| *Item 9* | Breaks promises he/she makes |
| *Item 10* | Expresses anger at me when he/she is mad for another reason |
| *Item 11* | Makes negative comments about me to others |
| *Item 12* | Is rude to me |
| *Item 13* | Does not allow me to interact with my co-workers |
| *Item 14* | Tells me I'm incompetent |
| *Item 15* | Lies to me |

# Appendix E

## Materials for Study 4

Appendix E.1

Supervisor demographic questions

01. Gender (please encircle): 1 Male 2 Female

02. Age (as of last birthday): _____

03. How long have you been working with your current organization (please encircle)?

1 less than 1 year 2 1-5 years 3 6-10 years
4 11-15 years 5 16-20 years 6 21-25 years
7 26-30 years 8 Over 30 years

04. What level of management do you belong?

1 Lower 2 Middle 3 Upper

05. Your job type (please encircle);

1 accounting/finance 2 customer service 3 legal
4 general management 5 human resources
6 manufacturing/production 7 marketing 8 public relations
9 information technology 10 research and development
11 sales 12 others: _____

Appendix E.2

Subordinate demographic questions

01. Gender (please encircle): 1 Male 2 Female

02. Age (as of last birthday): _____

03. How long have you been working with your current organization (please encircle)?

1 less than 1 year 2 1-5 years 3 6-10 years
4 11-15 years 5 16-20 years 6 21-25 years
7 26-30 years 8 Over 30 years

04. How long have you been working with this person? _____ years _____ months

05. Please indicate your current employment status (please encircle):

1 permanent/regular 2 probationary 3 contractual 4 casual

06. Your job type (please encircle);

1 accounting/finance 2 customer service 3 legal
4 general management 5 human resources
6 manufacturing/production 7 marketing 8 public relations
9 information technology 10 research and development
11 sales 12 others: _____

Appendix E.3

History of family aggression

| | |
|---|---|
| *Item 1* | One of my parents argued heatedly with the other but short of yelling. |
| *Item 2* | One of my parents yelled at the other. |
| *Item 3* | One of my parents insulted the other. |
| *Item 4* | One of my parents sulked and/or refused to talk about it. |
| *Item 5* | One of my parents stomped out of the room. |
| *Item 6* | One of my parents threw something (but not towards the other) or smashed something. |
| *Item 7* | One of my parents threatened to hit or throw something towards the other. |
| *Item 8* | One of my parents threw something at the other. |
| *Item 9* | One of my parents pushed, grabbed, or shoved the other. |
| *Item 10* | One of my parents hit (or tried to hit) the other but not with something. |
| *Item 11* | One of my parents hit (or tried to hit) the other with something hard. |

Appendix E.4

Word completion task

1. b_h___
2. in__re
3. ex_e__
4. mu__er
5. pr__e
6. spea_
7. fli__er
8. expl__e
9. w__m
10. ki__
11. t_p_
12. h_r_
13. a_t_r
14. cho_e
15. s_mp__
16. att_c_
17. c_mp__t
18. des____
19. sh_l_
20. sho_t
21. r_p__t
22. str__e
23. l__e
24. b_rn
25. st_r_o
26. p__son
27. p_st_r
28. m__gle
29. bl_nd
30. sn_re
31. b_e
32. h_t
33. g__pe
34. sm_ck
35. sm__e
36. kn___
37. t_ne
38. s__b
39. sh_r_
40. dr__n
41. p__ne
42. ang__
43. fl__t
44. fi__t
45. p_ck
46. ha_e
47. a_t
48. c_t
49. w_n
50. a_e
51. _ry
52. wa_

53. f_m_
54. sl_p
55. b__k
56. r_pe
57. fo_e_t
58. off___
59. l__on
60. cr__l
61. c_e_te
62. st_r_y
63. m_tc_
64. f_r__
65. t__te
66. n__t_
67. w__d_w
68. w__ked
69. vis__n
70. en_age
71. scr__n
72. h_tr_d
73. t_l_ph___
74. dis__s_ed
75. c_nt__l
76. prov__e
77. p_nb_ll
78. out___e
79. c_ll
80. r_de
81. m_n_ge
82. ins___
83. s_d_
84. b__t
85. br__ze
86. rev__t
87. coo_
88. s__y
89. d__r
90. sm_ck
91. fr__t
92. _unch
93. sh_re
94. a_use
95. cl__r
96. h_nt
97. w_t_r
98. s_ash

Appendix E.5

Hostile affect items

| | |
|---|---|
| *Item 1* | I feel furious. |
| *Item 2* | I feel aggravated. |
| *Item 3* | I feel stormy. |
| *Item 4* | I feel discontented. |
| *Item 5* | I feel like banging on a table. |
| *Item 6* | I feel irritated. |
| *Item 7* | I feel outraged. |
| *Item 8* | I feel angry. |
| *Item 9* | I feel offended. |
| *Item 10* | I feel like I'm about to explode. |
| *Item 11* | I feel mad. |
| *Item 12* | I feel mean. |
| *Item 13* | I feel bitter. |
| *Item 14* | I feel burned up. |
| *Item 15* | I feel like yelling at somebody. |
| *Item 16* | I feel like swearing. |
| *Item 17* | I feel cruel. |
| *Item 18* | I feel disagreeable |
| *Item 19* | I feel enraged. |

Appendix E.6

Procedural justice items

| | |
|---|---|
| *Item 1* | The organisation's procedures allow for requests for clarification or additional information about a decision. |
| *Item 2* | The organisation's procedures provide opportunities to appeal or challenge decisions. |
| *Item 3* | The organisation's procedures provide useful information regarding decision and its implementation. |
| *Item 4* | The organisation's procedures are constructed so as to hear the concerns of all affected by a decision. |
| *Item 5* | The organisation's procedures collect accurate information for making decisions. |
| *Item 6* | The organisation's procedures generate standards so that conditions can be made with consistency. |

Appendix E.7

Interactional justice items

| | |
|---|---|
| *Item 1* | My supervisor treats me with kindness and consideration. |
| *Item 2* | My supervisor treats me with respect and dignity. |
| *Item 3* | My supervisor is sensitive to my personal needs. |
| *Item 4* | My supervisor deals with me in a truthful manner. |
| *Item 6* | My supervisor discusses the implications of the decisions with me. |
| *Item 7* | My supervisor offers adequate justification for decisions made about my job. |
| *Item 8* | My supervisor offers explanations that make sense to me. |
| *Item 9* | My supervisor explains very clearly any decision made about my job. |

Appendix E.8

Psychological contract violation items

| | |
|---|---|
| *Item 1* | I feel a great deal of anger toward my organisation. |
| *Item 2* | I feel betrayed by my organisation. |
| *Item 3* | I feel that my organisation has violated the contract between us. |
| *Item 4* | I feel extremely frustrated by how I have been treated by my organisation. |

Appendix E.9

Neuroticism items

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| angry | 1 | 2 | 3 | 4 | 5 | 6 | 7 | calm |
| tense | 1 | 2 | 3 | 4 | 5 | 6 | 7 | relaxed |
| nervous | 1 | 2 | 3 | 4 | 5 | 6 | 7 | at ease |
| envious | 1 | 2 | 3 | 4 | 5 | 6 | 7 | not envious |
| unstable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | stable |
| discontented | 1 | 2 | 3 | 4 | 5 | 6 | 7 | contented |
| emotional | 1 | 2 | 3 | 4 | 5 | 6 | 7 | unemotional |

Appendix E.10

Abusive supervision items

| | |
|---|---|
| *Item 1* | Ridicules me |
| *Item 2* | Tells me my thoughts or feelings are stupid |
| *Item 3* | Gives me the silent treatment |
| *Item 4* | Puts me down in front of others |
| *Item 5* | Invades my privacy |
| *Item 6* | Reminds me of my past mistakes and failures |
| *Item 7* | Doesn't give me credit for a job requiring a lot of effort |
| *Item 8* | Blames me to save himself/herself embarrassment |
| *Item 9* | Breaks promises he/she makes |
| *Item 10* | Expresses anger at me when he/she is mad for another reason |
| *Item 11* | Makes negative comments about me to others |
| *Item 12* | Is rude to me |
| *Item 13* | Does not allow me to interact with my co-workers |
| *Item 14* | Tells me I'm incompetent |
| *Item 15* | Lies to me |

# Appendix F

## Materials for Study 5

Appendix F.1 Supervisor demographic questions

Appendix F.2 Subordinate demographic questions

Appendix F.3 Parent demographic questions

Appendix F.4 History of family aggression items

Appendix E.5 Word completion task

Appendix E.6 Hostile affect items

Appendix E.7 Procedural justice items

Appendix E.8 Interactional justice items

Appendix E.9 Psychological contract violation items

Appendix E.10 Neuroticism items

Appendix E.11 Abusive supervision items

Appendix F.1

Supervisor demographic questions

01. Gender (please encircle): 1 Male 2 Female

02. Age (as of last birthday): _____

03. How long have you been working with your current organization (please encircle)?

| | | |
|---|---|---|
| 1 less than 1 year | 2 1-5 years | 3 6-10 years |
| 4 11-15 years | 5 16-20 years | 6 21-25 years |
| 7 26-30 years | 8 Over 30 years | |

04. What level of management do you belong?

1 Lower 2 Middle 3 Upper

05. Your job type (please encircle);

| | | |
|---|---|---|
| 1 accounting/finance | 2 customer service | 3 legal |
| 4 general management | 5 human resources | |
| 6 manufacturing/production | 7 marketing | 8 public relations |
| 9 information technology | 10 research and development | |
| 11 sales | 12 others: _____ | |

Appendix F.2

Subordinate demographic questions

01. Gender (please encircle): 1 Male 2 Female

02. Age (as of last birthday): _____

03. How long have you been working with your current organization (please encircle)?

1 less than 1 year 2 1-5 years 3 6-10 years
4 11-15 years 5 16-20 years 6 21-25 years
7 26-30 years 8 Over 30 years

04. How long have you been working with this person? _____ years _____ months

05. Please indicate your current employment status (please encircle):

1 permanent/regular 2 probationary 3 contractual 4 casual

06. Your job type (please encircle);

1 accounting/finance 2 customer service 3 legal
4 general management 5 human resources
6 manufacturing/production 7 marketing 8 public relations
9 information technology 10 research and development
11 sales 12 others: _____

Appendix F.3

Parent demographic questions

01. Gender (please encircle): 1 Male 2 Female

02. Age (please encircle):

| | | |
|---|---|---|
| 1 20 years and under | 2 21-25 years | 3 26-30 years |
| 4 31-35 years | 5 36-40 years | 6 41-45 years |
| 7 46-50 years | 8 Over 50 years | |

03. How long have you been living with this person (please encircle)?

| | | |
|---|---|---|
| 1 less than 1 year | 2 1-5 years | 3 6-10 years |
| 4 11-15 years | 5 16-20 years | 6 21-25 years |
| 7 26-30 years | 8 Over 30 years | |

04. What is your relationship with this person? (please encircle)

1 Father 2 Mother 3 Legal guardian, please specify:_____

Appendix F.4

History of family aggression items

| | |
|---|---|
| *Item 1* | I argued heatedly with my spouse but short of yelling. |
| *Item 2* | I yelled at my spouse. |
| *Item 3* | I insulted my spouse. |
| *Item 4* | I sulked and/or refused to talk about it. |
| *Item 5* | I stomped out of the room. |
| *Item 6* | I threw something (but not towards my spouse) or smashed something. |
| *Item 7* | I threatened to hit or throw something towards my spouse. |
| *Item 8* | I threw something at my spouse. |
| *Item 9* | I pushed, grabbed, or shoved my spouse. |
| *Item 10* | I hit (or tried to hit) my spouse but not with something. |
| *Item 11* | I hit (or tried to hit) my spouse with something hard. |

Appendix F.5

Word completion task

1. b_h___
2. in__re
3. ex_e__
4. mu__er
5. pr__e
6. spea_
7. fli__er
8. expl__e
9. w__m
10. ki__
11. t_p_
12. h_r_
13. a_t_r
14. cho_e
15. s_mp__
16. att_c_
17. c_mp__t
18. des____
19. sh_l_
20. sho_t
21. r_p__t
22. str__e
23. l__e
24. b_rn
25. st_r_o
26. p__son
27. p_st_r
28. m__gle
29. bl_nd
30. sn_re
31. b_e
32. h_t
33. g__pe
34. sm_ck
35. sm__e
36. kn___
37. t_ne
38. s__b
39. sh_r_
40. dr__n
41. p__ne
42. ang__
43. fl__t
44. fi__t
45. p_ck
46. ha_e
47. a_t
48. c_t
49. w_n
50. a_e
51. _ry
52. wa_

53. f_m_
54. sl_p
55. b__k
56. r_pe
57. fo_e_t
58. off___
59. l__on
60. cr__l
61. c_e_te
62. st_r_y
63. m_tc_
64. f_r__
65. t__te
66. n__t_
67. w__d_w
68. w__ked
69. vis__n
70. en_age
71. scr__n
72. h_tr_d
73. t_l_ph___
74. dis__s_ed
75. c_nt__l
76. prov__e
77. p_nb_ll
78. out___e
79. c_ll
80. r_de
81. m_n_ge
82. ins___
83. s_d_
84. b__t
85. br__ze
86. rev__t
87. coo_
88. s__y
89. d__r
90. sm_ck
91. fr__t
92. _unch
93. sh_re
94. a_use
95. cl__r
96. h_nt
97. w_t_r
98. s_ash

Appendix F.6

Hostile affect items

| | |
|---|---|
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| *Item 12* | I feel mean. |
| *Item 13* | I feel bitter. |
| *Item 14* | I feel burned up. |
| *Item 15* | I feel like yelling at somebody. |
| *Item 16* | I feel like swearing. |
| *Item 17* | I feel cruel. |
| *Item 18* | I feel disagreeable |
| *Item 19* | I feel enraged. |

Appendix F.7

Procedural justice items

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Appendix F.9

Psychological contract violation items

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Appendix F.10

Neuroticism items

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
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| tense | 1 | 2 | 3 | 4 | 5 | 6 | 7 | relaxed |
| nervous | 1 | 2 | 3 | 4 | 5 | 6 | 7 | at ease |
| envious | 1 | 2 | 3 | 4 | 5 | 6 | 7 | not envious |
| unstable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | stable |
| discontented | 1 | 2 | 3 | 4 | 5 | 6 | 7 | contented |
| emotional | 1 | 2 | 3 | 4 | 5 | 6 | 7 | unemotional |

Appendix F.11

Abusive supervision items

| | |
|---|---|
| *Item 1* | Ridicules me |
| *Item 2* | Tells me my thoughts or feelings are stupid |
| *Item 3* | Gives me the silent treatment |
| *Item 4* | Puts me down in front of others |
| *Item 5* | Invades my privacy |
| *Item 6* | Reminds me of my past mistakes and failures |
| *Item 7* | Doesn't give me credit for a job requiring a lot of effort |
| *Item 8* | Blames me to save himself/herself embarrassment |
| *Item 9* | Breaks promises he/she makes |
| *Item 10* | Expresses anger at me when he/she is mad for another reason |
| *Item 11* | Makes negative comments about me to others |
| *Item 12* | Is rude to me |
| *Item 13* | Does not allow me to interact with my co-workers |
| *Item 14* | Tells me I'm incompetent |
| *Item 15* | Lies to me |